

NUS to concentrate on 'fewer but better' campaigns

by Paul Flather

The National Union of Students has voted to turn away from broad based political and social campaigning and concentrate on protecting the direct interests of its 1,200,000 members along the lines adopted by most trades unions.

The NUS will now lobby and campaign on issues directly related to students, such as grants, student fees, and union financing after a narrow decision at its conference in Blackpool.

The NUS has been forced to streamline its activities because of an expected fall of about 10 per cent in its £350,000 annual income caused by inflation, cutbacks, and changes in its subscription system.

The decision was carried narrowly on a card vote even though the executive's development plan, *The Shape of Things to Come*, was referred back for further discussion. The vote in favour was 238,226, with 227,352 against.

The plan had warned that the "silly days for student unions and therefore the NUS are over" and that the union needed to shed its "reun-mob" image.

Mr David Aaronovitch, the president-elect, said the plan laid stress on doing fewer things better. "We will now be better able to campaign and advise students on matters of special interest," he said.

The plan merely splits the union into different units, such as on research, issues, and on campaigning, already employed in most other political bodies, he said.

Alliance wins top jobs but loses majority

The Left Alliance has lost its majority on the national executive of the National Union of Students despite winning all five full-time posts at the union's conference.

The NUS elected Mr David Aaronovitch, aged 25, a history graduate from Manchester University, and the union's fourth Communist president. He will take over from Mr Trevor Phillips.

With a margin of 1,000 votes, the Alliance won the top jobs. Mr Aaronovitch polled 301 votes, while Mr Phillips, who was elected as the union's first full-time president, polled 291.

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TUC wants exams moved from May 14

The Trades Union Congress has written to the examining bodies asking them to change the date of the May 14 exam to May 15 to allow for a protest day.

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David Aaronovitch: new president

Universities 'afraid of part-time courses'

by Ngalo Crequer

Some universities were opposed to the extension of part-time courses because they felt their full-time students would be stolen, MPs were told this week.

Mr Richard Hoggart, chairman of the Advisory Council for Adult and Continuing Education, told the House of Commons select committee on education, science and the arts that universities had done far too little in making flexible arrangements for part-time work.

He said that at Goldsmiths College, arrangements had been made to provide joint contracts for staff to enable them to spread their work loads during the day and evening.

"We have had a devil of a job to get that kind of contract extended. If we wanted to start another part-time degree course you would find that apart from other objections, some universities would say: 'you will be stealing our students'."

Referring to an area of London surrounding Goldsmiths, he said: "It is so incredible to me that in a population which is slightly larger than the population of Israel, people say you cannot start another course. This is the kind of attitude which slows down the wheels."

He declined to name the institutions but said their fears were expressed behind the scenes, rather than publicly.

Professor Naomi McIntosh, of the Open University, and a member of the council, said one of the problems was the belief that demand did not exist. She said: "If we had waited for demand, the Open University would not have been set up."

She said that the conventional universities claimed they were doing demand for mature students but at the same time, between 40,000 to 50,000 students applied to the Open University, and about half would have to be turned down.

There were a series of artificial barriers which prevented students from taking advantage of higher education. She mentioned, for example, time tables and the requirement that students should be employed, but that many were not.

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THE TIMES Higher Education SUPPLEMENT

April 25, 1980 No 392

Price 25p

Five-year freeze on space research

by Robin McKie

Science Correspondent

There will be no new British space programme before 1985 and money for several other major projects—including research into biotechnology and earth resources—is to be severely limited in the next few years.

This decision, contained in the Science Research Council's plan for 1981-85, was approved by the council last week and has just been submitted to the Advisory Board for the Research Councils.

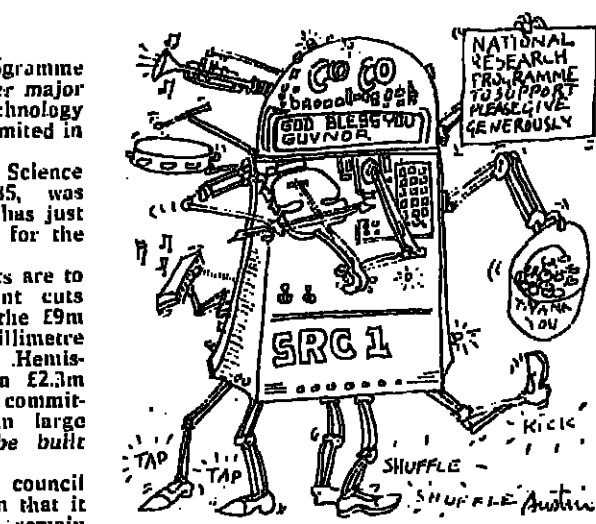
However, some important new projects are to be funded, despite recent Government cuts in the science budget. These include the £9m optical telescope and the £5.7m millimetre radio telescope for the Northern Hemisphere Observatory in the Canaries; a £2.3m investment in robotics research and a commitment to participate in the European large electron-positron (LEP) collider to be built by Geneva.

In its submission to the ABC, the council said its priorities for funding, given that it is to receive support which will now remain relatively constant at about £165m in 1979 prices. These are spread over the SRC's four boards—engineering, astronomy, space and radio, science and nuclear physics.

The major commitment for engineering will come in the implementation of the Roberts report, published in March 1979, which called for a substantial SRC role in preparing Britain for the advent of the microprocessor. This will be done by setting up microelectronics programmes in schools, universities, and at post-graduate and continuing education level, and by

establishing several large new research programmes.

Dr David Warnip, who is in charge of the scheme, said a major portion of the programme's £9m cost would be spent on robotics research which would concentrate on new techniques to be used in industrial automation. This would cost £2.3m and a further £1.4m would be spent on new MSc courses in integrated circuit design; £800,000 on research into microelectronic sensor and measuring techniques; and



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£900,000 to set up a large-scale integration microchip plant at either Edinburgh or Southampton University.

Within engineering, some economies have been made by dropping research projects in medical and civil engineering and in marine technology. The council's commitment to biotechnology, recently stressed in the Spinks report, is to be limited to £2.75m over the four years, although the SRC would like to spend much more.

In astronomy, space and radio, priority is to be given to the construction of the 4.2m optical telescope for the Canaries. This was originally to have cost £16m, but a drastic cost-cutting exercise by astronomers—which will leave the observatory without instrument preparation rooms, libraries, and cost accommodation—has successfully ensured the go-ahead for the project. A £5.7m instrument to measure radiation on wavelengths between radio and light will also be built.

Research grants will suffer as a result of economies, although the council hopes to complete its synchrotron radiation source project at Daresbury this year. The synchrotron neutron source facility, projected for construction at the Rutherford Laboratory, will not be built until 1984 or 1985—which may cause an escalation in costs and leave the machine out of date.

In high energy physics, university research grants will be cut to afford proper funding of the LEP project, although this may leave departments with insufficient resources to make use of the European machine when it is built. A further £250,000 is to be saved by closing the Glasgow University nuclear accelerator and limiting funds for the one at Oxford University.

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Martin Feinstein on the University of Bophuthatswana

The many lessons to be learnt at Unibop

A stranger to the Northern Transvaal seldom knows when he is in Bophuthatswana or South Africa. The nationalist pen that sketched the independent homeland onto the map left six separate pieces, surrounded by strips of "white" South Africa.

This is but one of South Africa's "jumping grounds"—a rural enclave to support the migrant labour system's fragmented families. Amid such underdevelopment and poverty, what role is there for a university?

"Independence" in Pretoria's shadow means little more than a separate flag and anthem and the right—if not the inclination—to pass different laws. But if this has made an international oddity of the territory, it has enabled it to scrap the segregationist laws enforced at South African universities and give birth to a university that will turn conventional ideas of higher education on their heads, cutting boldly across the concepts of liberal academia.

The University of Bophuthatswana (Unibop) opens officially on April 28 in the capital, Mafeking, near Mafeking, 300 kilometres west of Johannesburg and 150 kilometres south of Gaborone, capital of Botswana.

It is exciting because it is going to break many of the rules that South African universities have entrenched—not always willingly—and because it will be the first university in the country to plan from the ground up, for a Third World situation.

It was born in the hearts of the Tswana, the main tribe, rather than the minds of education planners. By the mid-1970s a national fundraising campaign had made a start when, in August 1978, eight months after South Africa granted the homeland independence—the New Republic's national education commission reported to Parliament, a university was a foregone conclusion. It remained only to be decided where it should be sited, what its academic priorities should be and how it should be structured.

Professor R. P. Lekhele, chairman of the Commission, recommended a university tailored to the country's development needs, particularly its embryonic civil service, and culture—and dedicated to free enterprise.

"We have tried to indicate our concern that enough emphasis should not automatically follow the pattern of the western, classical university but should seek to set up a university relevant to the needs of the country," he said. The structure was uninvolved, and which is now taking shape was a central campus with colleges throughout the country.

"The university must form an umbrella body linking together all forms of tertiary education into one integrated system."

"Historically this might well prove to be the most profound and influential recommendation which will shape the whole future of the university and the effectiveness of its relationship to the needs and aspirations of the people."

The Mafeking campus will start off with three schools: law, education and business administration. Already a college of agriculture exists. A Tswana, and the health and welfare ministry has submitted its proposals for a college of health and nursing. The country's two teacher training colleges will become the first college of education.

Also planned is a college of advanced technical education with the emphasis on mining, over half year. South Africa's human resources research council and psychologist from Bophuthatswana's educational department will join forces with Unibop to test annually and count



Building for the future: a construction worker on the Unibop site.

Just how close is reflected in the appointment of Sir Albert Robinson, chairman of Rustenburg Platinum Mines Ltd and Johannesburg Consolidated Investments, as chancellor. Bophuthatswana's President Lucas Mangope, was offered the position but turned it down.

The university building is taking shape near the capital's two monuments to Unibop: a squat glass and concrete parliament and the Mafeking Sun Hotel, one of several gambling and soft-porn spots in Bophuthatswana cashing in on droves of weekend tourists from puritanical South Africa.

It will only be completed in September next year, and until then lectures will be held in several renovated garages in a nearby housing complex. The administration operates from two small, hot and stuffy offices in Mafeking, where the rector, Dr L. Kriel, explained where the university is heading.

His goals are modelled a great deal on the conclusion of the association of African universities 1972 "Workshop on creating the African University".

"The need for a higher education system dedicated to purely African needs and ideas, forbidding to hide from poverty behind the screen of academic freedom and devoted, above all, to development."

Innovation will mark Unibop's first few years while it adjusts to his as yet untapped and uncharted field. If, for example, the country needs qualified agricultural technicians, a tailor-made course and certificate would take about three months to approve. The same operation in South Africa could take three years.

There are also thousands of prospective students without formal qualifications, and many potential graduates leave high school after three years (the standard 6) because of lack of money or classroom overcrowding. To exclude these would be to ensure Unibop's future as an elitist ivory tower—the last thing Dr Kriel wants; and yet, therefore, will be open to anyone with enough experience in their field, or to non-matriculants who show enough promise.

This applies particularly to the many hundreds of unqualified teachers whose experience will now enable them to register for education courses.

Even those who come to the university from afar, as one academic says will do, "from a non-academic, non-technological, non-quantitative background and with an affiliative rather than an achievement-oriented motivation."

For this reason, when lectures begin, a great deal of time will have to be devoted to the basic skills of study and communication.

"The university," Dr Kriel says, "will plan its work on the basis of flexible responses to actual needs and be ready to provide orientation programmes, courses to bridge the gap between school and university, because of the particular problems in finding sufficient students with adequate standards in mathematics and the sciences, the university will have a similar college set up specifically to provide entrance."

This school university will be the first in the world which began next year. South Africa's human resources research council and psychologist from Bophuthatswana's educational department will join forces with Unibop to test annually and count

Living dangerously with the Safety Act

David Jobbins on health legislation

The universities and colleges could be forgiven for any anxiety, when the 1974 Health and Safety at Work Act opened up their doors to the Factories Inspectorate for the first time.

The inspectorate was vested with sweeping powers to spring visits on institutions, leaving no doubt as to its intention to stop practices it considered dangerous, and to bring legal action if it thought fit.

This potential threat to the universities' hallowed autonomy rested in the hands of people as versed in the ways of factories as heavy industrial plants as they were unfamiliar with the way education institutions worked.

The inspectorate was fully aware of the gap between industrial and educational activities. What it did not know was the complexity of the management structure, and the way it affected health and safety. For its first task it set about an investigation of this framework and the general characteristics of universities and colleges.

It admitted that unfamiliar problems would be found. In particular, safety precautions traditionally part of enforced practice in factories might seem irrelevant or even downright obstructive to enthusiastic research workers.

The inspectorate had also to contend with the question of the role of students, who are actively exposed to the hazards but do not have the same legal rights to protection enjoyed by employees. However, universities have what the inspectorate calls considerable duties under the 1974 Act to make sure students' health and safety is not endangered, and that premises used by students and plant and materials provided for them are safe and free from health risks.

The bulk of the suspicion has been centred since the inspectorate began a five-year inspection in 1978. At first few white postgraduate students at the "tribal" universities. They accused the white universities of using their institutions as convenient dumping grounds for second-rate academics. How will Unibop respond to white students?

Yes, they will be admitted, and one has already applied for undergraduate study. But they will be treated as "foreigners" and their fees will be higher, although it hasn't been decided how much. Fees for local students will be pitched slightly lower than most white universities.

Each and every student will receive a bursary which will cover about half the costs of a degree or diploma. Unibop does face the danger of becoming a convenient feeder for the universities.

The inspectorate acknowledges that the universities' commitment to the welfare of their employees did not begin with the 1974 Act.

"I think they have always had an interest," Mr Cavanagh said. "It is implicit in the whole concept of care in loco parentis. The Health and Safety at Work Act is just another expression of this."

The inspectorate's statutory and civil duties.

The first priority has been to get educational managements to reassess old attitudes. What resistance the inspectorate has found was to entrenched feelings about academic autonomy, which has been challenged.

Mr Cavanagh rejects suggestions that the older universities are proving the most resistant while the newer foundations have necessarily been better attuned to health and safety.

"It is not so much the type of establishment or where it is, but the person in charge. We are coming on to a question of personalities. Some will give way before the inevitable while some will resist to the end."

If the person in charge is interpreted we make a lot of headway. The first objective of the visits is to ensure that an adequate safety policy exists, and that the management structure has been developed in line with health and safety requirements.

"We are moving towards greater cooperation. Inspectors try to identify the management structure and create one if it is absent. They also look at the institution's safety policy, and if it is inadequate they try to improve it."

"We have to give priorities—and be prepared to phase things, as this is no different from what is happening in industry."

There is a lot which can be done without committing large sums of money, Mr Cavanagh says.

He is anxious to stay out of controversy over the implications for health and safety of economic and social changes in the staff ratio under consideration of a number of polytechnics.

Provided there is the right of training there is not the necessity for immediate supervision by everybody, otherwise you would have one student per teacher. It is not so much that we do not want to get involved in this one if we can avoid it, it is better to leave it to the professional judgment of the lecturer. He fully they will know. It could be very dangerous if we started laying down rigid rules and regulations."

Mr Cavanagh illustrated the inspectorate's general approach by outlining the attitude adopted at benzene.

"In industry we have said this is a suspected carcinogen, and do not accept its use as a cleaning fluid because something can be found to do the job just as efficiently but which is less harmful."

But if the purpose is educational, and someone wants to study the properties of benzene itself, we are not so ready to say a substance is too dangerous to use."

While it is impossible to be precise in a university, we would say that something else is harmful can be obtained.

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Serious incidents such as at Birmingham smallpox outbreak are fortunately few and far between. The pilot study reported in 1978 that university safety advisers said there were many "near misses".

"It is perhaps worth speculating whether it is because there are many competent and trained staff around in the laboratory that their minor accidents do not become more serious," the report continues.

It analysed 127 accidents at Strathclyde in 1975 ranging from the trivial to the potentially fatal. Of these 25 caused absence of more than three days. Three occurred during a university holiday, and included a number attributable to foolishness or carelessness.

Technicians seemed the most at risk, with breakage of glass labware, and equipment a particular hazard. Maintenance staff and cleaners also showed a high incidence of injury. The majority of their accidents were not in the laboratory but in other circumstances peculiar to universities.

Mr Cavanagh is sceptical about suggestions that initiative and experiment will be damaged by the Act. He argues that if the Act is implemented it is really a small price to pay for the health and safety of the staff and students.

Little can have been done about health and safety in the past and that universities would therefore be particularly dangerous places to work—a proposition not borne out by the pilot study.

The inspectorate points out that the Act adds the qualification "in so far as is reasonably practicable" placing requirements on employers. It accepts that this factor has to be taken into consideration of the balance of the degree of risk against the then Employment Act.

Under Secretary, Mr John Cavanagh, described how the Health and Safety Commission and Executive sought to foster a safe working environment. He said that all periods of school should be shorter, but no one knew how short.

The three-year course had been divided into three equal parts: pre-clinical, clinical, and post-clinical. Although the college had produced over 3,000 doctors from this course, the one-year pre-clinical course had proved inadequate.

Mr Chan said that although most of the staff were medical students, the college was not a medical school, and many could do reasonably well in these conditions, their theoretical level was very low and they could not carry out research.

Mr Chan said that during the Cultural Revolution period students had paid far too much attention to practice and too little to theory. Now students must pass the stiff university entrance examination in mathematics and chemistry as well as political science and foreign language; competition is fierce with 15 applicants for every place; they do not go into hospital until the beginning of their third year and little emphasis is placed on the workplace.



Shanghai students—numbers are expanding.

Healing the wounds inflicted by the Cultural Revolution

Shanghai Second Medical College is an institution of contrasts. On one side a rather shaky undergraduate course that is only just recovering from the traumas of the Cultural Revolution and its aftermath; on the other a high quality staff and a high, even international, reputation in medical research.

The college was founded in 1952 but its constituent parts had much longer histories. It incorporated the medical school of St John's University, an American foundation, and of Aurora University, founded by the French, as well as a Chinese medical college and Shanghai's School of Dentistry.

The city of Shanghai was perhaps the spiritual home of the Cultural Revolution and certainly the roving base of the Gang of Four. So an institution such as the medical college with high educational standards and western links was in an exposed position.

Dr Wang Li-Bon, the school's director, explained that he himself had been denounced as a capitalist, and although a soldier in Mao Tse-tung's Fourth Army before the revolution he had been forced to stand "with his head low" from morning to night.

He was severely bullied and beaten "I have experienced what a fascist dictatorship is like," he added. But Dr Wang emphasised that only a small proportion, no more than 2 per cent of the staff and students at the school had been called "bandit-like thugs" and a senior colleague, Professor Chang Tung-Hu, agreed. He said that very few had been any good and that some had only had a primary education. But, he added, they had usually been enthusiastic.

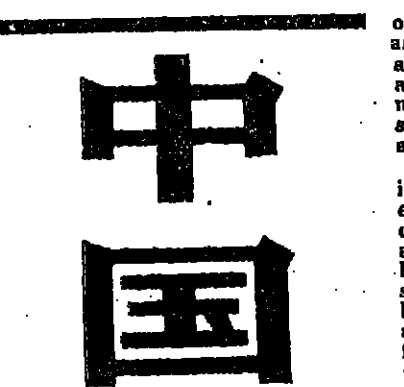
Perhaps in reaction to the collapse of standards between 1966 and 1978, the college is now determined to reestablish high—and traditional—standards as quickly as possible.

Although no students will graduate from the lengthened five-year course until 1984, it seems to have been remarkably successful in this—but at the cost perhaps of innovation.

Dr Wang calls it "a restoration", and restoration with its conservative overtones seems an appropriate word to describe what has happened at Shanghai Second Medical College.

The college devoted to the more theoretical pre-clinical part of the course has been increased by two-and-a-half times, while the clinical part has been lengthened by only six months and medical practice remains the same.

Mr Chan said that during the Cultural Revolution period students had paid far too much attention to practice and too little to theory. Now students must pass the stiff university entrance examination in mathematics and chemistry as well as political science and foreign language; competition is fierce with 15 applicants for every place; they do not go into hospital until the beginning of their third year and little emphasis is placed on the workplace.



Peter Scott's series on China continues with a visit to Shanghai Medical College

These doctors were now being called back to the college for a special one-year course to upgrade their knowledge.

Another problem was that not only was the course too short but students did not have to pass an examination to enter it when they graduated. Dr Wang said that their quality had been very, very low, and a senior colleague, Professor Chang Tung-Hu, agreed. He said that very few had been any good and that some had only had a primary education. But, he added, they had usually been enthusiastic.

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Hilary Wilce reports on a country with an impossibly large student population

Pence has come to Egypt but there are no plans for military demobilisation, so one of the more striking features of the country's education—the fact that military service for graduates lasts a year instead of 18 months—remains untouched.

Other attractions include status and a job guaranteed by the Government on graduation. These, together with Egypt's long academic tradition (the Al Azhar University in Cairo is the oldest in the world, and the place where the term "chair" originated) have led to the development of an impossibly swollen student body and a graduate population seriously at odds with both the country's needs and opportunities.

Within Egypt there is a widespread feeling that higher education is ripe for radical change. In a recent major policy speech Dr Mostafa Kamel Helmy, the Education Minister, said all aspects of the country's education system needed changes "beyond mere technical education."

Higher education faced several problems, "the most prominent of which is that connected with the standard and quality of graduates and the extent to which they are in demand by the labour market."

Five hundred and fifty thousand students crowd into the country's 12 universities. Five years ago there were only 250,000 students.

This numbers boom has inevitably led to falling standards and appalling teacher-student ratios. Last year the medical profession threatened to withdraw recognition of medical degrees from Cairo university, which has 130,000 students and is the most prestigious in the country, unless conditions improved.

Seven new provincial universities were established in the 1970s, but their facilities are still under construction. At Zagazig University in the eastern delta much of the campus is still a building site, while staff and students get by as best they can.

Yet at Zagazig, as elsewhere, university staff are pressured to take more students than they think fit, since all pupils with the requisite number of marks in the school-leaving certificate are entitled to free university education.

Dr Kamay Jassid, dean of the engineering faculty, explained that, since the age of 15 and for laboratory technicians, he could be asked to take an additional 40 or so "special cases"—perhaps students whose fathers had died in the war, or whose parents worked at the university—and then another 100 students from the local province. With a fees charged are not dissimilar.

Egypt's numbers pyramid

handful of students repeating the year, that would bring his intake up to about 200.

University admissions are carefully controlled almost wilfully designed to produce an imbalance of graduate skills. They are run on a pecking order: pupils with the highest school-leaving marks study medicine; those with the next highest marks study science or engineering; and at the bottom of the faculty league come law, commerce and education.

Social and economic pressures ensure almost all students take up their allotted places in the hierarchy, no matter what their personal preferences. As a result Egypt has an oversupply of doctors, while teachers are poorly qualified and motivated.

Radical student politics remain the province of the few. Those on the left are outweighed by those lining up behind such Islamic fundamentalist groups as the Muslim Brotherhood. Some observers can see an increase in the numbers of girl students wearing traditionally modest Muslim garb, but others dispute this; and university teaching staff and others point out that such allegiances have as much to do with general anti-Sadat, anti-Western attitudes, as with hard-line religion.

Meanwhile government offices remain full of lethargic, under-employed graduates, while the country suffers from a desperate shortage of technicians. Upgrading the technical sector has become one of Egypt's top priorities.

Students can either go to a three-year or a rare five-year technical school at 16, or go on to a two-year specialised technical institute after completing secondary education.

The shortage of skilled labour, and the fact that so many Egyptians, technicians and skilled craftsmen head off in search of higher wages in the rest of the Arab world, has pushed demand dramatically.

As has to find a good plumber in Cairo as in Crocydon, and the fees charged are not dissimilar.

CHINA

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During the past six months a Save Adult Education Campaign has been mounted in order to generate political pressure against the widespread cuts in adult education by local education authorities. As a result of pressure on local politicians, a number of policy decisions have been modified in various parts of the country, but a disturbing trend has been established in that almost all the L.E.A.s now expect non-vocational adult education to be financially self-supporting.

Typical cases require class fees to be set at levels such that teaching, travelling, publicity, administrative and accommodation costs shall be covered. The input of public money is, therefore, being reduced almost to zero and the criterion of a successful class programme will be the ability to balance the books.

One education committee chairman in the Midlands has gone so far as to herald as a cultural revolution the fact that adult education has now been converted into a business. Organizers, it is claimed in the L.E.A. in question, are now free to arrange whatever classes they wish, provided that students will pay for them. What was formerly a publicly financed sector of education is, therefore, being moved into the market place.

No other public sector has so far been treated in this way, but the new policies on adult education represent a significant departure from the spirit of the 1944 Education Act and from the well-established tradition of publicly provided education at all levels and of all kinds.

What is happening to adult education can, therefore, be seen as a significant change of principle. What seems to be at stake is the implicit principle that educational provision should be shaped by educational considerations rather than financial ones. This does not mean that money does not matter, but priorities within a given budget are decided on educational grounds and

Adult education: the scapegoat of market-place economics

Expecting non-vocational courses to be financially self-supporting is against the spirit of the 1944 Act, says

Kenneth Lawson

not on the basis of whether or not a given number of courses are sufficiently popular to attract a given amount of fee income.

The traditional view sees education as a matter of public concern and as something worthy of public support. On the present evidence, adult education is being singled out as an exception to this principle.

Moreover, the principle of an equal right of access to adult education, irrespective of the financial status of students, is being further weakened. It has long been breached by the imposition of fees, but in most cases these have been nominal. They are now rising to a level at which they become a deterrent to many people, and when all other costs are rising, expenditure on education will become a lower priority in many family budgets.

It must be asked, therefore, whether education should be a low public priority that funds are withdrawn altogether. If the provision of education for adults is left to market forces, no-one can judge with certainty what will happen, but it is likely that what survives will be the more popular activities, irrespective of whether or not they are the most important, and they will be engaged in by the more affluent members of society.

It is easy to understand why adult education is being treated so exceptionally. The service relies heavily upon part-time staff who can be recruited and dispensed with at quite short notice and this makes it a simple matter to contract and expand provision as circumstances dictate. Contracts are usually issued subject to satisfactory enrolment for a given course and there are few costs incurred in cancelling a contract if classes fail to recruit. Additional contracts can readily be issued in order to meet unexpectedly large demands.

Such a system has its strengths and makes for flexibility. It is also relatively cheap compared with organizations employing large numbers of full-time staff. It is, however, no doubt, which led Dr Rhodri Iwan to say recently in the House of Commons "that expenditure on adult education is one of the most purposeful and productive aspects of all education expenditure."

The system also has its weakness which because of its flexibility can be readily adapted to changes in the market situation. This flexibility has made possible the massive reductions in provision in counties such as Humberside, West Glamorgan, Hampshire and Nottinghamshire, last autumn.

The reliance on part-time staff also deprives adult education of strong trades union support. Its staff is not on the whole unionised in respect of part-time employment, although many individuals may be members of unions connected with full-time jobs elsewhere than in adult education. But in any event, union membership is largely irrelevant in the context because threats of strikes are likely to have little impact.

In addition, adult education is not compulsory and the 1944 Education Act does not specify either the quantity or quality which is to be provided. For many people, too, adult education is seen as far less important than the education of children. For all these reasons, therefore, adult education appears to be a soft option for the politicians of either party, which can be manipulated easily without putting votes at risk—or so it has seemed.

What has been a surprise in recent months is the strength of feeling engendered by the cuts and fee increases. Adult education and their students, in some areas at least, have come to recognise that if adult education is being made a political scapegoat, then a political response is necessary.

By making full use of local press and radio, a quite unprecedented

public response has been given and the lesson which has been learned is that elected representatives can be influenced if sufficient numbers of people are motivated to write letters to their M.P.s.

It has been demonstrated that letters can have an effect. It has also been shown that protest need not be violent and that there is still room for reasoned argument and what matters is a recognition of the fact that a certain number of people care about the issue.

What the Save Adult Education Campaign is attempting to do is to raise awareness of the importance of adult education as a total educational system and mobilization of the public in respect of part-time employment, although many individuals may be members of unions connected with full-time jobs elsewhere than in adult education. But in any event, union membership is largely irrelevant in the context because threats of strikes are likely to have little impact.

No one pretends that the case for adult education is high. It is still weak for many of the reasons given and in financial terms the weight of L.E.A. opinion has to be shifted if it is to be developed as a public service which is not a soft option for the politicians of either party, which can be manipulated easily without putting votes at risk—or so it has seemed.

The author is assistant director of the department of adult education at Nottingham University.

Case for a Ministry of Science

continued from preceding page

In basic science and technology the Ministry would expand the activities of the research councils, especially those of SRC, encouraging research and cooperation with industry of relevant departments of universities and polytechnics, and other collaborative schemes (e.g. teaching companies and exchange of personnel). Thus he would play an important part in improving standards in areas of higher education which are suffering from the present policies of the DES. He would be able to commission reports such as on desirable numbers, training and career prospects of QSEs, being outside the DES he would be better placed to press for changes in our educational system, to support research in universities not only in basic science, but also severe damage to our technological effort as well. Not only is there no sharp dividing line between "basic" and "applied" research, or for that matter between "basic" and applied sciences—a project in polymer science was referred to as "basic" applied research, and the pursuit of basic research projects has an enormous influence on the recruitment of young scientists and technologists.

It is often the British involvement in space physics, astronomy and other imaginative projects that originally attracts the young school leavers into the fields of high-speed electronics, material sciences and computing. Moreover some of the best scientists, many of whose work is to train technologists, may well be lost to this country if they are not given the opportunity to follow up interests which may not be immediately applicable to industry, they are certainly not discouraged by the Ministry of Science, or attracted to British universities or polytechnics by their salaries or working conditions, which are now further deteriorating.

If the present 100 staff in students who is lowered still further the universities will find it impossible to produce graduates in rather less than three years and at the same time run postgraduate courses or research projects many of which are of relevance to industry.

Even before the present series of cuts the Field Foundation Report (1978) drew attention to the demoralization and disillusionment of young potential good scientists and engineers caused by a lack of career structure in higher education. It needs a separate Ministry, committed to research and technology who would give a steady stream of the morale of the young scientist or engineer and create for him a suitable climate.

There is an argument that even in spite of financial problems the national effort in basic science and technology as represented in our universities and polytechnics should not only be cut back, but that there is a case for moderate expansion. The success of US technology can be related directly to an expansion of their science basis in the 1930s, even during the depression, which formed the foundation of the energetic investment in industry when the need and the opportunity later arose.

In this country before the present crisis we had only just begun to create such a basis, after relying for too long on "string and seal" war methods. Surely we should enable industry to build on it and not dismantle its foundations.

The existence of a Ministry of Science and Technology overseeing basic and applied research and development and the training and career structure of scientists and engineers is a necessary basic condition for the transfer of the results of R and D into industry. That this transfer is not effective enough has been the topic of many articles in the press; of ministerial statements complaining about the "missing link" and has been the subject of a report of the SCST also. It seems that there is more than one reason for this failure.

The role of the production engineer is paramount

The first stems from the limitations and the high-speed applications of the Rothchild principle. This principle works well enough in an actual project in industry or in a laboratory, a problem arises which requires R and D to be done. In this case the problem is probably well defined, and since the conventional way of doing it is not satisfactory, it is presumably anxious to use the results of this exercise.

However, this procedure has led to difficulties and frictions; or in the DES there have been disagreements between the Government, scientists and the research-innovation committees (concerning outside scientists) about the ethical, of priorities, in other words about what is a "reasonable" really wanted, the Rothchild principle. The Rothchild principle, which is a very good one, is properly assessed and evaluated by IOST,

they probably can be usefully applied to short cuts and limit projects equally. Other solutions are positive and not too expensive. Industry will probably make use of them without much prodding. Secondly, the speed and flexibility with which new trends are identified and developments introduced in firms or whole industries depends on management's response and willingness to make the necessary capital outlay.

In this response and the ability to identify problems which need solutions, the role of the production engineer is paramount. It seems that we do not possess production engineers of high quality in sufficient numbers; certainly there is evidence that top managements in British industry fail to recognize the importance of production engineers and fail to encourage their proper training and to provide a satisfactory career structure for them.

Thirdly the creation of ACARD proved that more is required than a Rothchild-type procedure when new and large scale technologies have to be planned for which there is, to start with, no "consumer". Since the survival of our industries must be based on new and advanced technology, the creation of these new technologies by ACARD is the proper procedure and the Minister of Science and Technology would base his decisions and recommendations to the cabinet on its findings.

Industry will, of course, always be free to make its own assessments, but it is clear that only very large firms, e.g. in the chemical, oil, electrical industry or some nationalised undertakings can do so, but very few industries indeed can make large investment plans in new technologies without Government assistance.

Because profits which should pay for new technology will normally be long in coming and even then might not be sufficient to pay for new developments, some firms, e.g. in the aerospace or microelectronics industry, will need Government help for a long time to come. This is perfectly well understood in the United States, where government defence contracts supply this support or in Japan where industry is supported by loan agreements with banks who are only once removed from government. All advanced countries are backing developments in the transfer of advanced technology into industry, and Britain can be an exception only at her peril. With the overview of R and D transferred to MOST, a major role of DAI will be to encourage industry and to provide finance to aid advanced technology.

The SCST report makes a number of recommendations concerning education and training of QSEs and a stronger interaction between R and D resources in the education sector and productive industry; and the Government's reply shows how many of these recommendations are being acted upon. But the evidence submitted to the committee, based on some of the main causes of the breakdown in the transfer of technology into British industry, which militates against effective technology transfer.

This is borne out by the evidence of an executive of a fairly large firm who is one of his graduate intake and yet is unable to give a figure of the number of his firm's employees. Another of the trials is quoted as saying that QSEs standing would be unsuitable for the needs of British firms; yet there is ample evidence from the United States, Germany, even British industry that such support can be eminently successful.

The practice in many British firms to penalize the bright young graduates here SCST quotes comparative figures of the low percentage of graduates on the boards and the even lower percentage of those with a degree in science or engineering. Comparisons of the incomes of those with a degree in science or engineering, financially and careerwise for some years to join industry in this country with those in other countries who are our equals in the climate in British industry is conditioned by a lack of suitable technicians in middle management and on the boards, and by a paucity of good production engineers.

Both industry and government should play their part

It is a pity that the Fineman report has not been necessary to devote so much space to the almost self-evident thesis that a production engineer, like members of other professions, cannot be trained in less than four or five years, but has few suggestions to improve the industry about how to put its own house in order.

There can be no doubt that in Britain we have the brains and skills and human potential to make the necessary technological advances, but both industry and government must play their part. The missing link between research and production is essentially a problem of the right investment in the new technology, means investment in higher education, qualified young people, and in research and development, and in the processes. In industry the failure to invest is often caused by a low level of recognition of the importance of the production engineer, or by a lack of capacity or unwillingness to invest in flow considerations, to finance research, or on a combination of all these. Government's duty is to encourage industry to invest in science and technology and to ensure that industry's survival in the twenty-first century.

The author is a senior lecturer in the Leeds University.

BOOKS

The testing of mental bias



Arthur Jensen.

individual. Thus it follows that the study of test bias is only concerned with measurements of phenotypes, and we are told that there is no "concerned with inferred genotypes in this inquiry". This reluctance to deal with the genotypes by means of h^2 (the proportion of phenotypic variance attributable to genetic factors) is rather strange. Could it be that a full scale defence of h^2 with respect to IQ is now no longer possible? To be fair Jensen still claims that:

Estimates of h^2 (i.e. broad heritability, which includes all of the genetic variance) for various standardized tests of intelligence vary from about .50 to .90 in different samples and populations, with a central tendency close to .75.

However, he now recognizes that there are a number of theoretical assumptions involved in estimating h^2 by any of the several most common methods, and in practice it is rarely the case that the data meet all the assumptions underlying any one method.

and cautions that: although there is general agreement among most behavioral geneticists that the heritability of intelligence is substantial, there is much less agreement that any given empirical determination of h^2 is an entirely satisfactory estimate. In any particular study one can always find methodological reasons for some doubt.

Yet he leaves us in little uncertainty about evidence converging from the many studies so that "it would be difficult indeed to make a case for the hypothesis that the heritability of IQ is less than .50".

Converting to percentages it suddenly looks as though, putting it crudely and lumping in any covariance terms, it is 50 per cent hereditary and 50 per cent environment. It must be noted of course that this estimate is a within population one and says nothing about the causality involved in the difference between the means of two different populations.

Jensen clearly appreciates that the calculation of h^2 for IQ scores is a "highly technical and complex affair involving the principles and methods of quantitative genetics". He also appreciates that the calculation of h^2 for IQ scores is a "highly technical and complex affair involving the principles and methods of quantitative genetics". He also appreciates that the calculation of h^2 for IQ scores is a "highly technical and complex affair involving the principles and methods of quantitative genetics".

On race differences Burt emphasized the enormous overlap between groups in the frequency distributions of IQ scores.

If Jensen is not making a frontal defence of his 1969 position is he doing it throughout the book by the use of a "cultural bias" method? This thought continually recurs as one intrepidly battles with the almost overwhelming mass of mental measurements reported.

In chapter four he discusses the distribution of mental ability. For IQ scores it is usually approximated by the normal curve even where the test items are not specially selected (rebutting those who denounce the tests for being deliberately designed to produce a "privileged elite"). There are departures from normality at the lower and upper ends of the scale, but critics have never proposed a satisfactory alternative function for the distribution. The production of separate norms for different racial groups is opposed on the grounds that it would be an extreme practical nuisance and involve the construction of conversion tables. What, then, do we know about the IQ distribution for the black and white populations of the United States? It is revealed on page 98 that "standardized intelligence tests of practically every description show an average IQ of about 100 for the white population, with over 90 per cent of the published studies reporting differences between 2/3 and 1/3, which on the IQ scale (with $\sigma = 15$) is between 10 and 20 IQ points, with a mean of 15 IQ points difference."

The only published data showing the scores of the black distribution is for 1,800 black children from the Southern States. There is a significant difference between the means, but the distributions overlap. Jensen's conclusion is that "the difference between the means is not statistically significant, but the distributions overlap."

completely makes no difference to the conclusions to be drawn from what is a very large and respectable body of evidence.

Yes, there are other more reliable sets of data than those published by Burt, but so far as the ratio of hereditary variance to the environmental variance is concerned, the analysis by Jensen (1978) in the *British Journal of Educational Psychology* supports a figure of 75.25, which does not differ greatly from that of Burt's 80:20. Goursley also concludes that:

Burt's intuitions in respect of the heredity-environment problem are, in the whole much sounder than those of many of his critics. Also, one must make allowance for the fact that he was a pioneer in the study of heritability of IQ; most of the more sophisticated analyses in the field came after his early work.

On race differences Burt emphasized the enormous overlap between groups in the frequency distributions of IQ scores.

If Jensen is not making a frontal defence of his 1969 position is he doing it throughout the book by the use of a "cultural bias" method? This thought continually recurs as one intrepidly battles with the almost overwhelming mass of mental measurements reported.

In chapter four he discusses the distribution of mental ability. For IQ scores it is usually approximated by the normal curve even where the test items are not specially selected (rebutting those who denounce the tests for being deliberately designed to produce a "privileged elite"). There are departures from normality at the lower and upper ends of the scale, but critics have never proposed a satisfactory alternative function for the distribution. The production of separate norms for different racial groups is opposed on the grounds that it would be an extreme practical nuisance and involve the construction of conversion tables. What, then, do we know about the IQ distribution for the black and white populations of the United States? It is revealed on page 98 that "standardized intelligence tests of practically every description show an average IQ of about 100 for the white population, with over 90 per cent of the published studies reporting differences between 2/3 and 1/3, which on the IQ scale (with $\sigma = 15$) is between 10 and 20 IQ points, with a mean of 15 IQ points difference."

The only published data showing the scores of the black distribution is for 1,800 black children from the Southern States. There is a significant difference between the means, but the distributions overlap. Jensen's conclusion is that "the difference between the means is not statistically significant, but the distributions overlap."

Jensen's conclusion is that "the difference between the means is not statistically significant, but the distributions overlap."

largely caused by environmental effects? Jensen certainly admits that these can occur:

Large shifts in IQ are traceable in some cases to rather drastic changes in the child's environment, such as moving from an orphanage to a good adoptive home, or losing the parents, or marked changes in family circumstances that may affect interests and opportunities for intellectual development.

If the environmental effects are put down to "cultural bias" for example, differential exposure to words, concepts and books, then test performance will reflect these experiences if the tests are biased in the sense of favouring one group rather than another. On the other hand, if the tests are biased against the blacks, the quibblers are attacked by Jensen for having "contributed the least to a working scientific definition of culture bias" and not thinking "it necessary to do enough studies to determine whether the criticized tests do in fact show evidence in terms of objectivity defined criteria."

If the tests are unbiased and differences are still obtained between racial groups when these disparities are controlled for, then the differences must be ascribed to innate causes. But it does not logically follow that they need be solely innate. There could still be environmental effects in action, mediated by, for example, nutritional differences and the general level of arousal produced by external stimulation. Nevertheless, "bias" as such, could not be upheld as the major cause of differences if the tests are shown to be "really unbiased".

Definitions and criteria of test bias are set out in chapter nine. Three concepts which might naively appear to be related to bias are defined as being wholly fallacious; these are, first, the egalitarian fallacy (assuming equivalent intelligence across all human populations), second, the culture-bound fallacy (the idea that items in a test can be rejected as biased by casual inspection), and third, the standardization fallacy—standardizing a test on one population does not mean that the test is biased for members of another population.

Obviously, Jensen goes for the statistical definition of bias as "systematic errors in the predictive validity of test scores of individuals that are associated with the individual's group membership". Similarly, he uses "discrimination" in a neutral statistical manner and warns us that "no other overtones should be read into it."

Of his term "test" he is biased if two people belonging to different characteristic groups obtain the same IQ score which then predicts on an external criterion measure a different score for each of them. For example, if IQ scores for blacks

and whites were plotted against Grade Point Average, the scores should be described by a single regression line so that there is no systematic under or over prediction for either group. A trouble-shooting procedure is outlined for detecting the sources of error in biased tests. The conclusion is that:

most standard ability and aptitude tests... are not biased for blacks and whites with respect to criterion validity and that the little bias that has been found in some studies has been in a direction that actually favors the selection of blacks when the selection procedure is colour blind.

So IQ tests are unbiased in this psychometric sense, but one is left with the nagging doubt that this finding says very little about the environmental differences between blacks and whites.

Chapter 13 deals with sex bias and Jensen usefully highlights the inadequacy of studies which play small samples. "It requires a sample size of at least 985 of each sex to detect a one IQ point difference." The largest study of IQs ever (on Scottish children in 1932) failed to show a difference in mean IQ between the boys and the girls.

Throughout the book there runs an approach to intelligence which owes much to the work of Charles Spearman, indeed Jensen enthusiastically accepts the encapsulation of "g" as the general factor. "g" is the general factor which enters into all test performance. Intelligence is identified with "g" and "to the extent that a test orders individuals on 'g', it can be said to be a test of intelligence." He also supports Spearman's extraction of "g" from the intercorrelations of different mental test scores: "Because all measurements that fall within the mental abilities domain are positively intercorrelated, they all share some general factor."

This "g" factor is identified with the first principal component in the statistical routine for its analysis, but will not concern us here. Most statistical psychologists will be rather surprised to see the return of "g" with such a vengeance, for since the work of L. L. Thurstone it has been realized that the description of a person in terms of a limited number of reference abilities is mathematically arbitrary.

Anyway, some attempt is made to hunt for "g" throughout the animal kingdom and to identify it with possible brain processes. One hopes that the measurements of the brain's electrical potentials will be "unbiased" and it is tempting to equate "cognitive power" with "neural efficiency". Research in this area is tricky, to say the least, but some suggestive results have been obtained using Average Evoked Potentials.

In chapter 15 on the "Uses and Abuses of Tests" Jensen draws out some of the wider implications of his work and discusses the relation of test results to society. He argues strongly for the contradiction of racial philosophy, which imposes controls on people only because of their racial origin, by the facts of differential psychology. These "facts" include the possibility of a genetic component in racial differences (i.e. black-white) IQ differences, but as he lets slip in a note on page 58 this possibility is highly disputed and is generally regarded by geneticists as a scientifically legitimate but unproved hypothesis.

Further, he is convinced that the practical applications of psychometrics can help to "reinforce the democratic ideal of treating every individual as an individual rather than according to his or her sex, race, social class, religion, or national origin". He will be joined in this view by those psychologists who still believe that psychological tests are essentially a democratic method of selection.

To conclude, Jensen's book is an outstanding contribution to the literature of mental testing, and will force the debate on differences in intelligence back from the political to the scientific.

The author is a senior lecturer and departmental head in psychology at University College London.

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BOOKS

As others see us

Perceiving Others: the psychology of interpersonal perception
by Mark Cook
Methuen, £7.50 and £3.25
ISBN 0 416 71550 8 and 71560 5

Did you know that whereas the man who is a good judge of other men is likely to be resourceful, dominant, outgoing and not very tactful, in contrast, the most accurate male judges of female personality tend to be tactful, tolerant but timid? (Bronfenbrenner, 1958). Or that Orientals are not really inscrutable, but are brought up not to let their emotions show; and in private, especially if shown some 'specially selected foreign films', they 'allow some limited facial expression of their feelings'? (Ekman, 1972). Do you realize that few selection interviews, when picking one candidate out of a short list of five, are likely to produce as good a result as selecting candidates with a pin? (Ulrich and Trumbo, 1965).

When Penguin launched its Science of Behaviour series of inexpensive but authoritative texts in 1970, one of the highly recommended titles was Mark Cook's *Interpersonal Perception*. It was the avowed intention of this Penguin series to provide rapidly revised texts as and when the fields they covered expanded and altered; but the publishers' reneged on this promise, and so it has taken nine years and the enterprise of another publisher to bring out a new edition. The complete rewrite of the book to match the changed nature of the field of interpersonal perception.

Attribution theory, and mathematical modelling of the way we combine multiple cues have come to dominate recent research in the area and Cook devotes considerable critical attention to both. However, the basic research issues in the psychology of interpersonal perception remain the same: how do we come to form the judgments we do about other people? What processes are involved, and what kinds of information about the other do we use? And how accurate are our everyday and our professional judgments?

There is much more than would first be imagined to such questions. Thus, for example, the evidence of Michel and other personality

researchers indicates that the empirical status of traits is dubious, and that human behaviour is in fact much better predicted on the basis of a knowledge of the situation; yet we find ourselves, as perceivers of others, constantly using trait descriptions. Do traits then only exist in the mind of the perceiver, rather than in the behaviour of the perceived? There has until recently been little study of the motivated distortion of person perception; but Cook (1975) has shown that people's usual ways of seeing others can be directly related to their own motives as indicated on Thematic Apperception Test protocols. It is clear that we need further research on the origins of our very individualized series about other people.

This book has the great merit of completeness: in rewriting, Cook has not just gone for what predominates in the latest journals, but retains a major slice of the (very important) earlier work on, for example, forming impressions from superficial and from behavioural cues, and on the implicit personality theories we all develop. Perhaps Cook tries to be too encyclopaedic in the short compass he has allowed himself: some of the middle chapters are so full of references that they become almost staccato scraps of information; and, as a result, many important studies are reported in such an abbreviated form as to emerge trivialized. A more comfortable compromise would have been to bring out fewer studies, but more editorial comment from the author himself, who tends to round chapters off with a concluding sequence of startling brevity. As a consequence, the book remains authoritative but rather difficult to digest; and I at least would like to have come away from the book with more of a grand, integrative theory of person perception. Perhaps Cook felt reluctant to propound one, having been so perceptively forthright in criticizing attribution theory, the current infatuation of much social psychological research, as being so loose and vague as hardly meriting the name 'theory'.

Christopher Spencer

Christopher Spencer is lecturer in psychology at the University of Sheffield.

Introducing development

Theories of Development: concepts and applications
by William C. Crain
Prentice-Hall, £9.70
ISBN 0 13 915566 9

This is an introduction to some of the major theories about human development. Short and clear accounts are given of the main ideas of Locke, Rousseau, Gesell, Bowlby, Montessori, Piaget, Kohlberg, Freud, Erikson, Bettelheim, Schachtel, Jung, Bandura, and Chomsky. Also included are briefer presentations of ecological work (Lorenz and Linberg), learning theories (Skinner, Pavlov, and Skinner's first humanistic psychology (Maslow).

The emphasis is on those who, in various ways, have emphasized the importance of nature, 'building' tendencies to growth, rather than of the environment. This is not so much a thesis that the author wishes to sustain, as a general interest that he has. The book has the air of being based on a taught course, and if so it would seem that the author would start by making his points clear to students. But he would, I think, then go on to show that something of his own voice is in the level of treatment would be most appropriate to those studying development as a component of a specialized training. Intending teachers, health visitors, social workers, counsellors, for example, need a different kind of book. It is a different kind of book, one that is useful and one that is not. It is a book that is useful and one that is not. It is a book that is useful and one that is not.

John Radford
Dr. Radford is Head of the Faculty of Human Sciences at North-East London Polytechnic.

biographical details of each theorist. I think, to put the person in context. The accounts themselves, then, are usefully condensed without undue distortion. The reader must realize, however, that this is not a developmental textbook. First, Crain himself points out, it does not attempt to deal comprehensively with many of the conventional 'developmental' topics such as intelligence, or sex differences. Second, although there is a section headed 'Evaluation' for each theorist, this is in each case short, and, in many cases, very superficial. There is no real attempt to evaluate the theories against some general criteria; to consider what sort of thing a theory of development might be. Nor is there any very profound discussion of the values, explicit or implicit, of each theorist. For example, the account of Schachtel suggests that the adult's loss of the capacity for childhood experience is a problem, one we should seek to correct. This may be true, but it is not self-evident. Theories of development, at least in so far as they have implications for child-rearing and education, can hardly avoid value judgements.

Third, and perhaps most surprisingly, there is at least two groups of theorists who are not mentioned even in passing. These are Bruner and his co-workers, and the associated anthropologists such as Cole; and the Russians—Vygotsky, Zaporozhny, and so on. It is difficult to see the reasons for omitting them from a book that ranges from Watson to Jung. Nevertheless, the book as it stands is useful and one would wish to see it generally available.

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Dr. Radford is Head of the Faculty of Human Sciences at North-East London Polytechnic.

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BOOKS

Our ability to learn

Intelligence, Learning and Action
by Richard R. Skemp
Methuen, £14.50 and £5.60
ISBN 0 471 99747 1 and 27575 1

Unlike billiard balls, higher organisms and human beings, Skemp tells us at the beginning of his book, are goal directed: their behaviour is explicable only in terms of certain ends and (not necessarily conscious) purposes that he calls goal states. The primary goal state to which all others must favourably contribute is that of survival. Organisms achieve their ends by means of director systems whose function is to organize their energies via information gathering sensors operating according to plans.

The notions of goal state, survival, and director system dominate Skemp's model of intelligence, which he conceives of as a 'kind of ability to learn' that has reached its highest development in homo sapiens. Intelligence, then, is a biological phenomenon, whose rewards—successful action in the world, the achievement of 'understanding'—appear not so much as social or cultural ends, but as the results of organic needs.

But what are the mechanisms that ensure we satisfy our needs, guaranteeing that we think, learn, reconsider, gather information, alter our perceptions, gain knowledge? What impels us towards our goals and away from our anti-goals? Skemp's answer is that it is our emotions, our felt responses to the world, which partly or goad us into action. And he considers this answer together with the role he assigns to consciousness—the most original aspect of his model. Other accounts of intelligence, he argues, divorce the question of intelligent thinking from that of feeling, and ignore or play down consciousness.

Any such thought/emotion split is rejected by Skemp as artificial. Instead he characterizes emotions as 'attention demanding signals' which control (or at least mediate) our thinking by providing information on how near we are to our goals. And he hypothesizes that consciousness, far from being a marginal phenomenon of our physical evolution, is a deep-rooted

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device for improving adaptability. Thus we experience pleasure or pain, fear or relief, according to whether we move toward or away from a goal or anti-goal respectively, and our knowledge of our ability to so move engenders either confidence or frustration, anxiety or security. Moreover, the mixture of noble and vicious involved in negotiating goals and anti-goals will call forth different degrees of consciousness: 'Greater consciousness contributes to greater adaptability of a director system; diminished consciousness is associated with routine functioning.'

Having set up a framework of director systems, goals, anti-goals mediated by emotions and degrees of consciousness, Skemp devotes the bulk of his book to developing the technical features of these notions, and using them to throw light on how optimal learning, focusing of attention, awareness, assimilating new phenomena, coping with abstractions, and achieving understanding enable us to survive.

Essentially this portrays intelligence as a process of modifying the schemes, plans, concepts, cognitive maps, and representations that make up our inner 'reality' so that action in the outer world of 'actuality' will have enhanced adaptability. Thus there are detailed accounts of how we process information, enlarge the domains of goal states and probabilities (the portion of our total habitat relevant to a given complex of goals), compare inhibitory and re-order our director systems, and most importantly learn to learn by operating on our own schemes.

Skemp is an intelligent teacher: he enables one to learn and to learn how one learns. An awareness of his own theories—too much novelty is threatening, incomprehension produces fear and anxiety that block intelligent functioning—enables him to attempt to explain his model. His tone is kindly, he is patient, well organized, summarizes essential points, comments on the motive and direction of his account, and always gives concrete illustrations of abstract concepts.

After the simplicities of stimulus-response accounts of intelligence, the over-confident reductions of most of the work in artificial intelligence, and the self-justifying 'jargon' of Piaget's abstractions, Skemp's model of intelligence is modest, and suffers however, from several intellectual limitations. The view Skemp has of reason is an instrumental one. Intelligence undoubtedly has its origins in the biological problems of coping with the world of physical objects, but in restricting itself to these roots is to prevent any discussion of cultural intelligence, where what is to be understood is part of a humanly constructed 'actuality'. Thus, understanding the economic

case for the rise of fascism, or the play of natural and supernatural time in *Macbeth*, or the role of masks worn by individuals in society, or the manner of our own repressions, are exercises of intelligence quite different from Skemp's model of scientific understanding with its progress towards truth. Otherwise the fact that the majority of people working in the humanities are baffled by the most elementary abstractions of mathematics would imply that they were ill-adapted to their subject-matter, and in some sense 'unintelligent'. Perhaps they are, but then a proper account of human intelligence would have to articulate what this means. Would historians able to think algebraically write 'better' (i.e. more intelligent) history? Skemp's instrumentalism seems to shed little light on such questions.

Given Skemp's biological emphasis it is surprising that no discussion or even reference to play occurs in his account of intelligence. Animals and children engage in play, and they do so as an essential part of their development. Winnicott's account of the fundamental importance—both symbolic and practical—of play in human growth, and Bion's discussion of the meta-signs involved when animals communicate the desire to play are not only absent from Skemp's book, but seem difficult to fit in.

The role Skemp assigns to language in the formation of intelligence has a naive and pre-scientific feel to it. He sees symbols as important for (say) the combination of schemes—which indeed they are—but fails to credit their use with any capacity to structure, determine, or bring into being such schemes. His reality/actuality split is a version of the subjective/objective makes the constitutive nature of language difficult to see or understand. Thus, for example, the widespread occurrence of opposition pairs in natural language, and the propensity to think in terms of opposed concepts are clearly related. How they are related is not easy to think about within Skemp's model. Again the 'actuality' that forms the subject-matter of mathematics is product of mathematical languages, conjured into being via the constitutive action of mathematical symbols. One would not know this, nor that mathematics was a form of play from Skemp's conception of it as a form of idealized practical reason.

Brian Rotman

Dr Rotman is lecturer in mathematics and mathematical logic at Bristol University.

Philosophical judge

The Logic of Scientific Inference: an introduction
by Jennifer Trust
Macmillan, £8.00 and £3.95
ISBN 0 333 26669 2 and 26670 6

As a volume in the 'Modern Introduction to Philosophy' series, this book is offered as a textbook for beginning students. The book undoubtedly has its merits, but how acceptable is this offer? It adopts a basic hypothetico-deductive approach, and discusses, fairly clearly, issues such as induction, abduction, observation, theories, laws, refutation, causality and probability. There are many useful and interesting ideas and plenty of good examples. But in the end it is not a text to be trusted philosophically. One should not offer new students a book that is so full of philosophical errors, which began with the observations on a central stage of life, that of identity development in adolescence.

The book's hypothetico-deductive stance does not fit well with its neo-inductivism. The claim that falsifying instances must be inductively projected is based on a far too simple view of scientific change: the model is also rather confusing, as it basically accepts a cumulative account but also recognizes the existence of fundamental

conceptual changes. As a result there is insufficient attention to difficulties connected with observation, testing, the relationship of laws to theories, the analytic-synthetic distinction, and the importance of conceptual change in science. The suggestions for further reading are extraordinarily conservative on these issues.

Sir Peter Medawar in his *Postscript* accuses the book's old-fashioned approach. But it is not just a question of fashion: intellectual issues and problems are obscured. Should today's student be offered 10 pages on induction and abduction, or should he be offered an account of induction which relates it to 'animal faith'? This might have been all right for Sartre, but a rather more critical approach to such an 'animal faith' loaded notion would have been more in keeping with contemporary intellectual standards. Should today's student be offered a use of language which 'proclaims' that all babies and scientists are 'miserable little creatures'?

Andrew Belsey
Andrew Belsey is lecturer in philosophy at University College, Cardiff.

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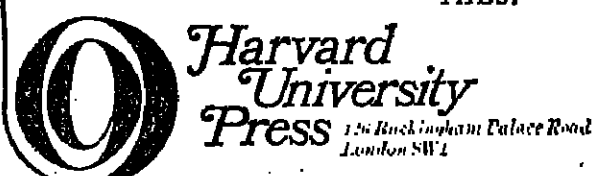
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At the age of eight Oscar Handlin knew that he would become a historian. By his mid-twenties this determination had taken him from Public School 48 in Brooklyn to a course at Harvard which, published as *Boston's Immigrants*, subsequently became recognized, as Professor Maldwyn Jones has declared, to constitute "a landmark in American historiography". Unlike those scholars whose early brilliance has been emphasized by subsequent silence, Professor Handlin, from his Harvard base, has in a variety of capacities maintained a constant output of publications of which *Truth in History* is the latest but not, one trusts, the last. If finally can be envisaged, that is a consequence of the collection in one volume of materials and writings assembled and in part published over the last forty years. During that period Professor Handlin has thought, read, expounded, and debated at considerable length aspects of the nature of historical writing and research. This process is illustrated in the 17 essays he has now printed or reprinted.

For better or worse—and arguments could be offered to sustain either position—the impression left by many of the papers is less that of interested wisdom than of belligerent partisanship. Professor Handlin does not believe that in his time the historical profession in the United States has gone from strength to strength; rather he sees it as having grown greatly both in size and in capacity to distort the interpretation of the past. His remarks on this question occur in a number of essays, from which it can be gathered that he regards the period before 1941 as providing a climate of personal academic contact and inspiring graduate teaching; that merits of the system were not destroyed by the war since he found teaching and learning en-

joyable for at least a decade after 1945. If a particular event marked the announcement of an end of accepted standards it was the publication in 1961 of William Appleman Williams's *Contours of American History*.

Handlin's review of Williams concluded that an academic outrage had been perpetrated. The study was a "total disaster", created from the "pervasive wrongheadedness that distorted every page". This judgment, to his amazement, did not dispose of the matter. In consequence, it continued to write about the abysmal quality of a work of historical scholarship; whereas those who objected to the criticism defended a manifesto of the revisionist school critical of American foreign policy. The real issue, he discerned, was not the quality of the writing but the politics of the Cold War. Academics were using scholarly materials for improper purposes and before long "the trickle of revisionist writings... had swollen to a stream". This despite the fact that the "position was inherently absurd; it flew in the face of all the evidence". Diplomacy was not the only aspect of American history in which Handlin found himself at odds with new interpretations: the Populists, as seen by some younger scholars, displayed ideological beliefs and ambitions which he deemed could be sustained by reference to their writings or outlook. Before long, however, these specific controversies were overtaken by more general questions of method and purpose stemming from the writing of American history and the corporate behaviour of American historians. Against this background developments in the 1960s and 1970s provided little, if any, ground for academic celebration and applause.

Fogel and Engerman's pioneering climatic analysis of slavery, *Time on the Cross*, did not and does not gain Professor Handlin's approval. His grounds for dissent are extensive and substantial but, as seems often the case in these essays, come coupled with reproaches of other scholars for their over-ready acceptance of the findings. Nor does his view of another popular theme—a recent historical literature—ethnically—offer more than a strictly qualified approval of interpretations that are mostly in danger of slipping the familiar endless, pointless, vacuous soap-operas. All in all, hope: in the 1970s the historical profession in the United States was distinguished for "intellectual flabbiness", "the spread of ignorance and the deterioration of skills", "the polarization of discussion", and a general corruption of the discipline. Delivering these assessments, Professor Handlin was said to be ending his long academic career with both a bang and a whimper.

The opinions contained in these essays regarding the purpose and pitfalls of historical research, and the fallible methods employed by American historians, should not be lightly set aside. Yet even those disposed to accept or endorse Professor Handlin's views on recent historiography may be somewhat dismayed at his somewhat savagely in footnotes of many prominent scholars, and more significantly by a failure to offer a respected and extensive exploration of the path that has led to the "ill-fated" (written by two friends), in each of which the picture of the war was obscured by a fog of detail. And he guessed who might be vying information to do this to him.

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NOTICE BOARD

delivered on May 7 in the New Physics
Lecture Theatre, Physics Building of
the Queen's University at Belfast.
Admission free.

Appointments

reminds us, Coleridge said that "all intense passions have faith in their own eternity". Blake's dead-end and deadening Wordsworth does not belong to this book. Dr Beer makes one refuse to accept that Wordsworth is among the poets who "pretend to poetry, that they may destroy imagination/By limiting of nature's images drawn from remembrance".

Isobel Armstrong

Isobel Armstrong is professor of English at Southampton University.

Book designed to accompany and complement the exhibit currently touring the United States. Other illustrations are from the library.

diaries? Certainly they would have provided material for historians and critics to dispute, but they would surely have constrained rather than inspired the poet's characterization.

impression that the author was by now insouciant or over-
date. Professor Stanford was a
name contemporary James or a
his counter-offensive into the
of English studies, but he made
of these studies, but he made
the enemy. He was not
widely and strongly entrench-
However, his main purpose is
to deprecate his role in the
protagonists of rival studies,
tactical, scientific, philosophical
to accept a concordat: the author
nishes this anxiety and the author
of poetry as of their own sub-
Ian Scott-Kilvert

*Ian Scott-Kilvert was formerly
professor of literature at the
Council.*

(medicine).
Clinical tutors: K. Barker (obstetrics);
J. A. Hutchingson (gynaecology); J. G. R.
(paediatrics); A. E. Hugh (radiology);
J. A. Hutchingson (psychiatry); J. R.
Lewis (anaesthetics).

Kent
Reader: J. A. G. Crayon.
Senior lecturer: H. Brewster (film
studies); R. F. Elton (sociology and
social anthropology); M. F. Fuller
(quantitative social science and
management science).
Assistant director of the personal social
services research unit: F. F. Judge.
Research fellows: P. J. C. Beadell
(social administration).
Research assistant: N. H. Buck
(sociology).

18.20 Man's religio
Thailand (AE)

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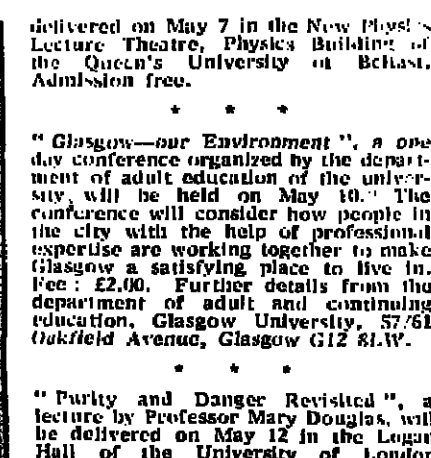
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a		Heather's inter-
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s-	8.40	The Digital Program for Materials us- of Fracture 31.
gn	12.20	Personality
dp	12.40	After (ESOL) Politics 1970's/1980's Industrial R-

23.80 : Renaissance
Subject in

23.50	Discussion (A2) The English Language (A204; pre-req.)
RADIO 3 (WH)	
24.00	Alternative attitudes to religion and mid-winter Mass-media coverage (A204; pre-req.)
00.30	Protein metabolism and the environment (A204; pre-req.)
00.40	Materials used in the production of plastic (A204; pre-req.)
Wednesday	
REC 2	
6.40	Curriculum statement (A204; pre-req.)
7.05	An essay on the history of the social movement (A204; pre-req.)
7.30	Interview (A204; pre-req.)
REC 2	
6.40	Introduction to the history of the social movement (A204; pre-req.)
7.05	Interview (A204; pre-req.)

7.30 Biological Sense Organs

10.50	(3) (8012)
	Biochemistry
	The Proper
	graining 2-
	prog 6).
17.15	The nature
	Experiment



The Society for Research into Higher Education has issued a call for papers for a conference "Research into Higher Education 1965-1995: Where do we go from here?", being held on

Surrey. Papers are invited for consideration on the following themes:

economics and planning—the structure and government of higher education; students—selection, learning and attainment; staff and institutions; curricula—teaching and assessment. Outlines should be sent to the conference organiser, SHRE, Surrey University, Guildford, Surrey, GU1 2XH.

00.20	The nature of chemistry; Chemistry Options 18304; prog 6).	ing and Measurement of Products (D101; prog 11).
00.40	Economics and education policy.	RADIO 4 (VHF) from 10.00 hours. Sunday

SEC. 1	Oceanography : Currents	B-35-
5.40	Food production systems	D-
7.04	Farming (1973) : prog. 51	
7.20	Aquaculture : General	The Hon.
8:	Experiment (1964) : prog. 12	
SEC. 2		
5.40	Modern art from 1918 to the present : style and social implications	
7.05	None Modern (1961) : prog. 4	

7.55 An Introduction to the Chemistry of
Carbon Compounds: Carboxylic Acids
and their Derivatives (824; prog 6).

ge	16.50*	Fracture Toughness (T551 ; proc 5)	
g		Principles of Chemical processes	
os	17.15	Infrared Spectroscopy ; proc 6.	
		The Earth's physical resources	
ge-	18.05	Uranium (2066 ; proc 4).	
		Biological aspects of behaviour : The	
'm		role of organic receptors and coding	
	18.30	(SP1296 ; proc 6.)	
		National income and economic	
		policy : Fiscal Policy is it stable	
		ains (1928 ; proc 3).	
	RADIO 3 (VHF)		

16.50	Introduction to pure mathematics: Continuity (M303; prog 10).	7.02	Industrial relations - Unit 1
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6.40	Telecommunication systems. Phases
18.20	Locked Loops (T241: prog 4)
18.20	Fundamentals of human geography
18.20	Physical Geography (T220: prog 4)
18.40	Science and belief: from Copernicus to Darwin (The Cambridge Plain)
18.40	Alternative broadcasts for students in Radio Scotland and Radio Cymru Areas only
23.30	Program for OFUS (T241: prog 4)

6.00^a Cognitive development: language and thinking from birth to adolescence; 18.30^b Making sense of society: What money? (D101; prog 11);

Alternative broadcasts for students in Scotland and the mid-Wales only.

24.00	Twentieth-century poetry: "Swedish Agonistes," (A306) (prep 3).
00.20	Contemporary daydreams: "Apostrophe and thinking from birth to adolescence": Mother/Infant Intercourse (A302) (prep 3).
00.40	Transcending reality: central themes in Wittgenstein's philosophy: Wittgenstein on Simplicity (A402) (prep 3).

23.80 Renaissance and Reformation: The Dis-

COURSES

60.401 Materials, under stress: The Origins
of Fracture Mechanics (1951): pros

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details to the Secretary,
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Applications are invited from young social science graduates or scientific officer posts within the Social Science and Research Council. The successful candidates will work as part of a team providing the secretariat to the Economic and Industrial Policy area of the Council's work.

1) One post will be concerned mainly with the work of the Economic and Industrial Policy Committee.

Origins Committee
 This work of the Executive Panel and with the Council's Public Sector Management Initiative.

Public staff are not themselves engaged in research but provide support for Committee and Panels and also act as referees for grants to support research projects being undertaken in Universities, Polytechnics and Independent Institutions commissioning research and using research to inform their graduates training policies.

Applicants should normally be holders of a good honours degree in the Social Sciences and have had some experience in research administration. Experience in administration or research would be an added advantage.

The salary scale which is universal for all staff in the programme includes Inner London

(from the original: 21,000 to 25,000 p.a. 1990) 21,000 p.a. 1990

Polytechnics continued

BRISTOL.
THE POLYTECHNIC
DEPARTMENT OF
ECONOMICS AND FINANCIAL
MANAGEMENT
LECTURER IN ECONOMIC
LITERATURE IN ECONOMICS
 Ref. No. L31,25

Applications are invited for the post of Lecturer in Economics in the Department of Economics and Financial Management. The successful candidate will be responsible for the teaching of undergraduate and postgraduate students and will also be expected to contribute to the research activities of the Department.

be above the minimum depending on class of degree and experience. The hours of duty are 30 per cent, excluding lunch hour and the leave entitlement is 30 days plus 10 public and 10 own non-contributory privilege holidays. The Council Applications forms and further details may be obtained from: **Genl Martin, (Ref. 50/1000) (TRES)**, RESEARCH COUNCIL, 1 Temple Avenue, London EC4T 0BD. Telephone: 01-252 4122. Applications close for applications: **15th May, 1986.**

N.I.H.E.
National Institute for Higher Education Dublin
Fórsa Náisiúnta um Ardteachtas Baile Átha Cliath

The Institute's role is National in scope; this will be characterised by its special attention to the needs, both current and projected of the community and of Irish industry, business and agriculture. Consequently, it will place heavy emphasis on applied studies.

Applications are invited for appointment as:


Head of School of Mathematical Sciences

CURRENT SALARY SCALE:

REVISED SALARY SCALE:
The above salary scale is under review and is expected to attract a significant increase. Details will be available to applicants.

CLOSING DATE:
30th April 1980

Application forms and further details are available from:
Personnel Office, National Institute for Higher Education,
1 Lower Grand Canal St., Dublin 2. Tel. 765175


Essex Institute of Higher Education
DEPARTMENT OF LAW
LECTURESHIP IN LAW
A Lecturer Grade 1 or 11 is required for BA(Hons) Law

Application forms and further details available from the Institute Secretary, Chelmer Institute of Higher Education, Victoria Road South, Chelmsford CM1 1LL, to whom they should be returned within 14 days of the date of this advertisement.
Telephone: Chelmsford 364491, extension 221.

Overseas Continued

AUSTRALIA

KELVIN GROVE COLLEGE OF
ADVANCED EDUCATION
BRISBANE QUEENSLAND

Applications invited for: —
**LECTURER/SENIOR LECTURER
IN HOME ECONOMICS**
REF No. 80/A/4

The person appointed will be expected to work in the Home Economics Department within the division of Science. The major courses of the Department are the Bachelor of Applied Science (Home Economics) and the Secondary Diploma of Teaching (Home Economics). However, courses are also offered in the Primary Diploma of Teaching and the Bachelor of Education Degree. Applicants should have a sound professional background and teaching experience in the following area: —

**CLOTHING AND TEXTILES
NUTRITION AND FOOD STUDIES
CURRICULUM STUDIES**

Appropriate tertiary qualifications in Home Economics and teaching experience in Home Economics at secondary and/or tertiary level are expected. Salary and conditions of service: —

The salary and conditions of service are those applicable to Colleges of Advanced Education in Australia. Dependent upon the qualifications and experience of the successful applicant an appointment will be negotiated on a permanent or limited term basis within the following salary ranges: —

LECTURER III
DOLLARS AUSTRALIAN 14,673 TO 16,809

LECTURER II
DOLLARS AUSTRALIAN 17,024 TO 19,466

LECTURER I
DOLLARS AUSTRALIAN 19,924 TO 22,364

SENIOR LECTURER II
DOLLARS AUSTRALIAN 22,842 TO 24,461

SENIOR LECTURER I
DOLLARS AUSTRALIAN 25,000 TO 26,623

The successful applicants would be expected to commence duty as soon as possible after August 11, 1980. Assistance is offered with removal expenses.

Further information and application form available from the Official Secretary, Office of the Agent General for Queensland, 392 Strand, London WC2R 0LZ.
Closing date: May 23.

**COLLEGE OF TECHNOLOGY
CALABAR, NIGERIA**

Applications are invited for posts in the following areas:

BUSINESS STUDIES
Principal Lecturer, Senior Lecturer, Lecturer: In Accountancy, Business Management.

SCIENCE TECHNOLOGY
Principal Lecturer, Senior Lecturer, Lecturers: In Physics, Bio Chemistry, Fermentation Science.

ENVIRONMENTAL STUDIES
Principal Lecturer, Senior Lecturer, Lecturers: In Building Surveying, Land Surveying, Valuation and Estate Management, Architecture, Town Planning, Quantity Surveying, Law.

SCHOOL OF ENGINEERING
Principal Lecturer, Senior Lecturer, Lecturers: In Civil Engineering, with emphasis on Hydraulics.

PAPER PROCESSING AND WOOD TECHNOLOGY
A Head of Department, Principal Lecturer, Senior Lecturer: In Wood and Paper Processing, Wood Chemistry.

ELECTRICAL AND ELECTRONICS ENGINEERING
Principal Lecturer, Senior Lecturer, Lecturers, Principal Technologist, Chief Technologist, Senior Technologist, Chief Instructor, Senior Instructor: In Control, Telecommunications, Computer Techniques, High Voltage Techniques, Electrical and Electronic Installation.

MECHANICAL ENGINEERING
Principal Lecturer, Senior Lecturer, Lecturer, Chief Technologist, Principal Technologist, Senior Technologist, Chief Instructor, Principal Instructor, Senior Instructor: In Air Conditioning and Refrigeration, Production, Mechanical Engineering Science, Automobile Engineering, Planned Maintenance.

SCHOOL OF AGRICULTURE
Principal Lecturer, Senior Lecturer, Lecturer: In Agricultural Mechanisation, Fisheries, Poultry Science and Management.

CONDITIONS OF APPOINTMENT
For all lecturing posts, a degree, appropriate professional qualifications, industrial/commercial experience and some years experience of lecturing to Higher National Diploma Level is required.

Position	Grade	SALARY RANGE		
		Commencing	Intermediate	Upper
Chief Lecturer	GL15	10,298	816	11,328
Principal Lecturer	GL14	9,188	320	10,128
Senior Lecturer	GL13	8,084	320	9,024
Lecturer 1	GL12	7,484	216	8,524
Lecturer 2	GL11	6,784	182	7,724
Lecturer 3	GL10	6,084	182	7,024
Principal Technologist	GL13	8,084	320	9,024
Senior Technologist	GL12	7,484	216	8,524
Chief Instructor	GL11	6,784	182	7,724
Principal Instructor	GL12	7,484	216	8,524
Senior Instructor	GL11	6,784	182	7,724

Fringe benefits include furnished housing, passages, biennial home leave, leave allowances, low taxation.

Further details and application forms should be obtained by telephone, telegram or urgent mail, from: The Director, College of Technology, Calabar, P.O. Box 200, Calabar, Nigeria. Telephone: Calabar (0443) 88478. Telegram: Kofor Gbafar. Telex: 21210. Ref: 1480.

Applications must have been received by 31st May 1980. Interviews will take place during the third and fourth week of June.

UNIVERSITY OF NATAL

Department of
Accountancy
DURBAN

Applications are invited from suitably qualified persons, regardless of sex, religion, race, colour or national origin for appointment to the post of

**SENIOR LECTURER/
LECTURER**

A subvention is payable by the Public Accountants and Auditors Board in the discipline to Chartered Accountants (S.A.), who are engaged full-time as Senior Lecturers in the teaching of accountancy students at South African universities. Salary in the range: Senior Lecturer R11 400-R15 900 per annum. Lecturer R 8 100-R13 200 per annum.

The commencing salary notch will be dependent on the qualifications and/or experience of the successful applicant. In addition, an annual vacation savings bonus is payable, subject to Treasury regulations. Application forms, further particulars of the post and information on pension, medical aid, group insurance, staff bursary, housing loan and subsidiary schemes, long leave conditions and travelling expenses on first appointment are obtainable from the Registrar, University of Natal, King George V Avenue, Durban, with whom applications, on the prescribed form, must be lodged not later than 31st May, 1980, quoting reference Adv. 1980/80.

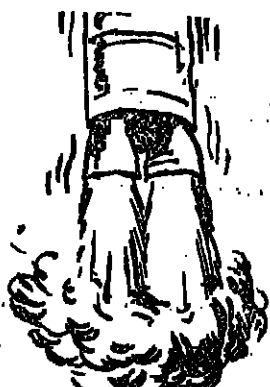
UNIVERSITY OF NATAL

Department of Psychology,
DURBAN

Applications are invited from suitably qualified persons, regardless of sex, religion, race, colour or national origin, for appointment to the post of

LECTURER

Though this is not an essential requirement, the Department will be interested in persons who are willing to teach courses in one or more aspects of Psychology. Salary in the range: R 8 100-R13 200 per annum. The commencing salary notch will be dependent on the qualifications and/or experience of the successful applicant. In addition, an annual vacation savings bonus is payable, subject to Treasury regulations. Application forms, further particulars of the post and information on pension, medical aid, group insurance, staff bursary, housing loan and subsidiary schemes, long leave conditions and travelling expenses on first appointment are obtainable from the Registrar, University of Natal, King George V Avenue, Durban, with whom applications, on the prescribed form, must be lodged not later than 31st May, 1980, quoting the reference Adv. D85/80.



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Union view

Myths about universities' research role

One of the worrying features about the views publicly expressed on the United Kingdom university system from those in politics and in public life is that these views are coloured by the myths that exist about university institutions and the realities that exist at the present time.

Part of this stems from the fact that many Cabinet Ministers and politicians seem to look upon universities first as a cohesive block of similar institutions and, second, are under the impression that "the universities" are just like Oxford and Cambridge were some 40 years ago, when many of those in public life attended those institutions.

Quite apart from the fact that Oxford and Cambridge, themselves, have radically changed over the past three or four decades, it has become an uphill task to persuade those who have some influence with the Government that each university has individual characteristics; that each university has different ways of carrying out the tasks expected of them and that the university system is a rich tapestry of many and varying patterns. Even some of our own academic staff who have not had the opportunity for various reasons to move around the university system do not realize the varying patterns that exist.

It is true that there is one task in common shared by the different institutions and that is to perform the same major role of educating and teaching students to the highest academic level and to conduct innovative and original research in order to push forward the frontiers of knowledge.

It is in the way that these roles

are performed that the difference exists. One only has to go from a sandwich course-based technological university, such as Brunel or Bradford, into an old civic university and from there to a Welsh college such as St David's at Lampeter, to realize the truth of the above.

In respect of internal organization, vast differences exist: some universities have schools and faculties, others are based entirely on an individual department system. Some universities place greater emphasis on lectures rather than tutorials, others regard the tutorial system as being paramount, while others try to strike a balance between the two. In order to detail all the differences in full one would need to write a whole volume and this is why it is such a frustrating task to try to drive home in those in government the need for policy decisions this many sided picture of university institutions.

This is not an easy task and perhaps in the past AUT and the universities themselves have not put forward in as sharp a form as possible the case for the universities. It is sometimes hard to take the view that the case for the universities speaks for itself.

However, in the hard, cruel world in which we live the realization has come about in university circles that we must publicly show the contribution that we make to the community.

We must point out that we turn out students more cheaply than anywhere else in the developed world. This is contrary to the popular myth which peddled that this is not the case. Also, we must by persuasion demonstrate to our critics that United Kingdom universities represent a rich and varied contribution, not only to the academic life of this country but to the general well-being of the community.

Laurie Sapper

The author is general secretary of the Association of University Teachers.

inevitable consequence—further impositions on the ratepayer. The Sheffield squanders an imposing rate increase this year of over 40 per cent—small, of course, compared with Labour held Stockton's 178 per cent, Basildon's 88 per cent or Middlesbrough's 53 per cent. At the opposite end of the scale, out of the 26 lowest rate increases in the country, 14 have been achieved by Conservative authorities.

The answer is neither to savage the education service nor to penalize the ratepayer, but to reduce overall staffing. A total of two million people are employed in local government and 125,000 leave each year through natural wastage. If only three out of four were replaced, the necessary savings could be made. Already more than 25,000 posts have been cut out of central government.

Earnings are rising by more than 20 per cent a year. We are facing a public sector pay explosion, with real wages in the manufacturing sector are being squeezed. The trend is not merely unacceptable, it is potentially disastrous. Our chances of economic recovery are damaged as inflation is fuelled, and the longer term the more marked reluctance of the most able students to enter manufacturing industry will become even more marked. It is worth reminding people that the manufacturing sector still generates over 30 per cent of the nation's wealth, so its health is rather critical.

The trend also has quite disastrous side-effects on the public services, particularly those of local government. Forming over 70 per cent of local government budgets 60 per cent of which goes on teachers' salaries, education is hit above all.

"People have an endemic capacity to ignore past experience—Harold Wilson deserved his knighthood for that one phrase, "a week in politics is a long time if for nothing else. Remember the collapse of Labour's incomes policy at the end of 1978? As the economic climate changed for the worse, even that pre-election Cabinet was forced into reviewing its cherished spending programme."

The moral is that few are ever aware of the indirect consequences of their actions—but when groups like the teachers continue to make "unrealistic" pay demands, the eventual result will be the cutting of their pet projects.

Why staffing policies must be re-examined



Keith Hampson

Tell it not in Blackpool, whisper it not in the streets of Harrogate: but Easter, the time of the year for contemplation.

The reality of the annual teachers' jamboree this year suggested that most of the delegates had been enjoying a bout of post-Lent indulgence ever since Shrove Tuesday. Amid the cloud of words that emerged the Easter one thing was clear: the teachers' unions have not yet grasped the reality of the present economic climate.

It is easy to hide behind the apparent demagoguery of the Admitted Places Scheme and to blame the Government for pumping £350 into private schools at the time of severe retrenchment in the State sector. Many teachers also find it all too convenient to close their eyes to the fact that it will be 1981 before the first £35m is spent and another six years before the total sum of £28m—not £55m—is reached.

But with the high inflation, the wages of a third in 10 years—by 50 per cent in some of our major

The AUT has taken the view that it is not sufficient to allow the myths of universities to go unchanged and to that end many of the local associations have embarked upon a programme of inviting MPs and other public figures into the institutions so that they can appreciate precisely what goes on and the way in which the universities do their work.

Of course, we understand that it would be a long process to drive from their minds the many mistaken ideas held on universities, which leads to contradictory statements such as, on the one hand, universities are elitist, conservative institutions, and on the other hand they are seedbeds of "red revolution."

What these people are putting a superficial gloss on is the universal dual task on trying to conserve all that is good, while at the same time trying to make changes in the academic field and to push forward the frontiers of knowledge, discarding old ideas and concepts and replacing them with new ones.

This is not an easy task and perhaps in the past AUT and the universities themselves have not put forward in as sharp a form as possible the case for the universities. It is sometimes hard to take the view that the case for the universities speaks for itself.

However, in the hard, cruel world in which we live the realization has come about in university circles that we must publicly show the contribution that we make to the community.

Laurie Sapper

The author is general secretary of the Association of University Teachers.

Don's diary

Sunday

The Easter vacation beckons invitingly and I am full of good intentions about keeping things like marking and clearing the desk to no more than two days a week. Why is it that the spring term always seems the worst, with everything ending up thoroughly tetchy? This year has been worse than usual but perhaps I really am getting on top of things at last and will have more time for research during the summer. Today, though, sees thoughts of work banished and the time is spent on finishing the glazing of a greenhouse. This has had to be rebuilt as the old one was a casualty of the winter gales. It has been a race against time to get the glass in before the summer and half way through the afternoon the last pane goes into place. Unbelievably the greenhouse starts warming up straight away and visions of lush tomatoes and peppers are conjured up. Perhaps the grape vine has survived the rigours of winter and we will be able to munge a touch of Chateau Kirkburton 1980.

Monday

On the way to feed the chickens before breakfast I walk past the pond and hear a faint croak. Paddling around among the weeds reveals nearly a dozen frogs and toads busily mating and producing plenty of spawn. This must mean that spring has arrived at last. The school's weight of numbers suggests a beautiful summer for frogs — i.e. cloudy and wet! Drop Robert off at school and in to work with the prospect of a quiet day, catching up on last term's mess. This is clearly a nonsense as there is a procession of people calling in to discuss essays and dissertations. The peace studies courses work largely by self-assessment and while I think this is preferable to formal exams it does mean far more to get behind with marking. So the start of each vacation involves furious attempts to clear up the backlog. Flee home half-way through the afternoon but immediately realize the futility of this. With three children, aged two, four and six, there is a state of random motion at home in the early evening. This usually subsides about 7.30 pm but until then no one is in control, least of all Claire or myself. Somehow a meal gets prepared and eaten and the children end up tired and in bed. The first half hour of peace is spent unwinding and then the rest of the evening includes just the tiniest bit of work.

Tuesday

Home for the day and I have arranged to hire a chainsaw to tackle a huge collection of old logs and to tidy up rather a lot of scrubby trees. Unfortunately local politics interferes because the council has decided to halve spending on youth services and this means that our youth club/community centre is under threat. As the building serves a host of local groups including mother and baby club, playgroup, football team HQ and old people's centre it means that a large chunk of the social life of the town is threatened. In the space of a couple of days a very determined and well-supported campaign has evolved but we have just learnt that a crucial committee meeting has been fixed for the afternoon. Claire has a huge collection of old logs and to tidy up rather a lot of scrubby trees. Unfortunately local politics interferes because the council has decided to halve spending on youth services and this means that our youth club/community centre is under threat. 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Laurie Taylor



"I know it's a little late in the day sir, beginning of the final term and all that, but I thought it was about time that I came in and had a word with you about what I was going to do when it was all over."

"Ah yes. Of course. Career prospects. That sort of thing?"

"Yes sir."

"Fine. Absolutely fine. Wish there were a few more who took such matters seriously. Far too many youngsters these days just drift through their degrees and expect to find a crock of gold waiting for them at the end of it. Well now, Hakesby, have you got any preliminary thoughts of your own on this subject. Any particular path in mind?"

"Noakes, sir?"

"What's that?"

"Noakes, sir. I'm Noakes. Not Hakesby."

"Course you are. Silly confusion on my part. So many faces pass in front of you at the beginning of term that you can forget what your own wife looks like. Noakes. Of course. Have you always worn those glasses?"

"Yes, sir."

"Thought so. Yes, I've got you sorted out now. From the north, aren't you Noakes?"

"Granham, sir?"

"That's it. Well Noakes, let's have a glance at your file. See how you're coming along. A distinction in your first year examination I see. Very creditable. And then rows of A's from your second and third year papers. Really enthusiastic comments. Ours writes a superb student full of dazzling insights." And Geoff Quinlock observes: "Dramatically incisive; the world genius springs to the lips." And a note here tells me that you've had a couple of books published."

"Well, three now sir. Routledge and Kegan Paul have just brought out the second volume of *World Sociological Theory*, which roughly speaking is an attempt to rewrite Parson's *Structure of Social Action*, and then of course there's the minor introductory text *Key Issues in Ethnomethodology*, which came out in my first year."

"Well obviously Noakes this is all commendable and I hope it hasn't led you to neglect the other aspects of your university career. Administration, Sport, Arts. That sort of stuff."

"I hope not sir. I'm president of the students' union and of course captain of the university rugby and cricket teams. Rather short on practice for the new cricket season. I'm afraid. Playing King Lear with the dramatic society has kept me a little busy in the evenings."

"Jolly good. Now Noakes, to get down to the nitty-gritty. I see that although papers were tipped for a double award, that is, with special distinction, that now only of your tutors feels it might only be a single starred first. What exactly's gone wrong?"

"I know that, sir. It would come up, sir. I can only say that I've experienced a sudden drop in confidence when I only received an 'A' for non-essay or mathematical logic. It shook me a bit, sir, I hope I've learned my lesson."

"Oh to hear it. So that's the end of the three books, student president, cricket and rugby captain. King Lear and likely double starred first on distinction. Well, Noakes, how do you hope to compensate for all this?"

"I know it's presumptuous, sir."

"Out with it, lad."

"I was wondering, sir, if you'd be prepared to nominate me for an SSRC post, please?"

LETTERS TO THE EDITOR

The making of Open University courses

Sir,—Professor Edwards's hostile review (*THES*, March 28) is odd both in its timing and its apparent ignorance of how Open University courses are made. Perhaps the domestic difficulties of *Times* Newspapers might be a partial explanation, but it is surely very odd practice to review in 1980 books that were published four years previously. One cannot help wondering what inspired *THES* or its reviewer to perform the unusual exercise of reviewing the text component of an Open University Course (S299 Genetics) when the course is already in the fifth year of its planned seven or eight-year life, before its rewrite cycle commences.

The reviewer makes criticisms about the course material itself which are invalid, as are his charges about the course team which prepared the course.

His suggestion that Open University course teams are "dominated by information purveyors and translators", as distinct from "experts" who are actively engaged in research and who therefore "have direct experience of what is taught", is a gratuitous insult to a large number of academics of the Open University and of many other universities who have been and are members of our course teams and who will know that this is simply not true.

In relation to the genetics course, he tells his readers that, in "the absence of anything resembling a genetics department in the Open University", and thus "lacking the resources of primary knowledge", the course was produced by "a 'course team' with eight unit authors and 10 'other members'". He carefully avoids disclosing any of the names of the unit authors, even though these are printed in every one of the course books he is reviewing. Could this be because they included several of the most experienced genetics teachers and researchers in the country? Furthermore, the texts of each unit of this course (as is normal procedure in the preparation of Open University courses) were reviewed by at least two independent and internationally recognized experts in the relevant field prior to publication. Thus, your reviewer is criticizing not only a group of teachers from the OU, but a substantial number of holders of chairs and other senior teaching posts in genetics in universities in other universities in the United Kingdom. It was indeed precisely because, in the mid-1970s, we had no geneticists on our staff that we engaged in an externally financed collaborative exercise with three other universities with strong genetics departments to prepare this teach-

ing material.

In addition, the teaching material was developmentally tested with pilot groups of students before first use, and has been regularly modified subsequently as a consequence of feedback and evaluation during use—one of the strengths of our system. Professor Edwards must also be aware of the fact that the biology department of the Open University has, from its inception, been committed to building a significant research effort in several areas and that, in the four years since S299 was first published, we have built up an actively researching group of geneticists among our own tenured academic staff in biology.

He may not be aware of the considerable research activity in other science departments, and other faculties of the Open University. Before implying, as he does in this review, that Open University teachers in general do not do research, would it not have been wise to have taken the trouble to inform himself? One should, after all, expect someone who is "a physician by training" to examine the patient, as it were, before pronouncing his diagnosis.

If they were valid, Professor Edwards's detailed criticisms of the course would, naturally, be relevant whatever the academic distinction of its authors and assessors. However, much of what he then says about the course is wide of the mark. Often, his judgments seem to come down to rather arbitrary ex cathedra judgments: he would not himself present the material in the way the course team decided to, or he would use different source material, or what have you. "It is a strange error", he says, "to start the course with human examples." Why?

The intention was to show starting students in genetics, with only foundation course or equivalent background, the human relevance of the subject. He may do it differently at Oxford, but this approach has been successful among our more diverse, but not necessarily any less talented, OU students. Against his untestable assertions, we would place the experience of our four years of teaching and evaluating the course. Biometrical genetics, he says, is hardly suitable for most students, but many universities and geneticists disagree, and teach it at about the level we do. We do not refer "to books on blood-grouping" . . . yet he does not seem to have grasped that most of our students do not have access to specialist libraries at which such books could be consulted. He doubts the value of the statistics text, but would he

not share our pleasure at the effectiveness and wide praise of this text, which was written by a first-rate external consultant? In other cases, he is just plain wrong. He quotes an extract from a section on the aetiology of schizophrenia which he finds surprising—that middle class patients may be differentially diagnosed from working class. He has clearly not read the ample documentation of the medical sociological literature. He hopelessly confuses sociological definitions of ethnicity (e.g. Jews) with biological definitions of race—confusion which the past 30 years of writing in the field should have cleared up. We can only hope that Oxford students studying human genetics are not led into these errors.

Professor Edwards may feel distaste for the teaching of the arcane mysteries of genetics on so wide a scale as the Open University achieves. He may not like the course team's decision to discuss some of the checked-out debates of the history of genetics, and to teach topics that use of major social interest; he may wish to profess genetics in a social vacuum in Oxford; our course team was determined from the start to avoid such old-fashioned pedagogy.

His review does little justice to himself, the work of the team, the involvement of the 20 or so geneticists who helped in the planning, preparation and scrutinizing of the course material, its careful developmental testing, and the more than 1,200 students who have already taken and successfully passed the course, to say nothing of those who are to do so this year and in the remaining few years of its life, or the large numbers in other universities and polytechnics who have used sections of the material. It discloses the judgement of our distinguished external examiners over the years.

If Professor Edwards would like to learn more about the way the Open University works in general, and in particular about how the genetics course team will set about the task of updating and remaking the course at the end of its planned life, he would be welcome to attend a course team meeting when this work is in progress.

The review ends with the question "who will educate the educators?" Perhaps the most appropriate response to Professor Edwards, might be "Physician, heal thyself".

PROFESSOR STEVEN ROSE,
Professor of biology, chairman, S299 Production Course Team,
DR ROB RANSOM,
Chairman, S299 maintenance course team.

Morrison and research

Sir,—The Science Research Council certainly hopes that the Morrison Committee's review of the support for university research will result in alleviation of the dangerous situation for British science created by the decline in the availability of new tenured posts, making it very difficult for young research workers to gain a permanent foothold in the academic world.

But the picture is not as simple as Dr Wallis suggests (*THES*, April 18). By enforcing the policy of a six-year limit on individuals being employed in unentitled research assistant posts we ensure that these posts are made available for younger research workers who have no otherwise their foot on the ladder. Surely it is right that a person who has had nine or so years to make his mark as a research worker and not found a tenured post should make way to give a younger person the opportunity to make his mark? The longer a person lingers on the edge of the academic world the more difficult he may find it to make a success of a career in industry.

It is obviously as much ennobled as the phrase "New Puritan" as he was when he coined it all those 16 years ago—he uses it in a derogatory sense. Well, that doesn't worry us. What I do find disturbing is that someone with the kind of status he enjoys in the educational world could be so completely misunderstanding (or should I say misrepresenting) the monitoring carried out by the 12 Oxford students of nine weeks' television.

He dismisses it all in a very cavalier way with the words: "How this sort of activity relates to any reasonable intellectual training is hard to see, since it begins by wrenching discrete items out of context and combining them in a chaotic and mechanical way." But the television tapes were assessing the television children are likely to see and it is of the nature of television that the viewer is likely to be misled. It is unlikely to be assessed, intellectually and is revealed as a pattern of collection of unrelated images and words.

It is unlikely of an academic of his standing to make sweeping statements about the value of television. I am sure that he has not seen the 20 programmes which were judged to be good.

Yours sincerely,
MARY WHITEHOUSE,
National Viewers and Listeners Association.

Attack on the SSRC

Sir,—I wish to register my strong exception to the use of the presidential address for the ill-considered attack on the Social Science Research Council at this year's BSA annual conference, and in particular to Professor John Eldridge's remarks about the leadership and staff. Management/staff relations have significantly improved since the difficult years of 1976 and 1977, and morale is very high considering that we are environment in which the SSRC operates has become distinctly more difficult.

Yours faithfully,
CYRIL S. SMITH,
Chairman of BSA executive, 1977-78 and Founder Member.

Science teacher shortage

Sir,—While applauding several of Mary Horton's ideas (*THES*, April 11) on tackling the shortage of teachers of mathematics and physical sciences, I must mention the extreme difficulty she would have in recruiting to the specific degree course she proposes. Common sense and experience both suggest that BSc in science and education without Honours would not attract very many applicants when a wide variety of B.Sc./B.Sc. with Honours courses are competing for them.

However, a similar but more realistic alternative is possible. To attempt to overcome the obstacle of low recruitment, at Sunderland Polytechnic, the faculties of science and education have jointly proposed to add a programme of teacher education and training to our existing BSc/BSc with honours in combined science, (including mathematics and computer studies), in place of the optional sandwich year in industry and through the medium of science-and-society and communication components, more than the equivalent of one-year of teacher training will be included for those who wish to choose it. Graduates who complete this programme will have studied as much science or mathematics as their fellow graduates and will receive not only a BSc or BSc with Honours but also a teacher's certificate.

The considerable advantage of this proposal offers in terms of recruitment is that students who are merely interested in teaching as one possible career option may enter this course without committing themselves to teaching. During the first two years they will be able to gain sufficient knowledge and experience of school teaching to make a gradual and informed decision about teaching as a career. At the end of the second year they will be able to choose between three alternatives, namely a BSc/BSc honours with teachers' certificate or a BSc/BSc honours without a sandwich year of industrial placement. We hope therefore that this course will prove to be attractive to an increasing number of students.

Such a course also has two professional advantages over the traditional route of a B.Sc. plus a postgraduate diploma in education. First, the choice of teaching as a career will be an informed and deliberate choice which should lead to a high level of motivation. Second, the longer duration and the greater commitment and teaching skills over a period of four years.

HARRY WEBSTER,
Dean of the faculty of education,
Sunderland Polytechnic.

Sir,—Re R. E. Morgan's proposed introduction into the polytechnics of degree courses in Science and Mathematics with Education (and industrial experience).

These courses do very little to alleviate the shortage of teachers of these subjects. We have been running such courses for many years and they attract able students. Unfortunately for the schools, most of the resulting graduates prefer to be snapped up by three complementary reasons for this common preference. On the one hand, industry offers better salaries and facilities. On the other hand, teaching has become over-represented with social engineering.

In my opinion, the teaching shortage will only when teaching conditions and salaries to science and mathematics graduates which are competitive with those offered by industry. For the sake of the country the unions really should stop equating, for example, a teacher of needlework and limited prospect in industry, with a mathematician or a scientist or a linguist.

Yours faithfully,
A. H. BISHOP,
School of Mathematics, the University of Bath.

Letters for publication should arrive on Tuesday morning at the latest. They should be short and to the point. The editor reserves the right to cut or amend them as necessary.



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California's Proposition

The University of California escaped the first epidemic of fiscal conservatism, Proposition 13, having been passed before the state had been hit by the recession. The state universities were less fortunate. The university is unlikely to survive a second epidemic, Proposition 9, on which Californians will vote on June 3, without serious damage to its financial integrity and its ability to provide high-quality education for the people of the state.

The purpose of Proposition 9 is to reduce state income tax by half. This tax brings in half of the state's revenue, so if Proposition 9 is passed, public-sector services, such as the university will lose about a quarter of their revenue from Sacramento. In the case of the University of California at Los Angeles, one of the system's two flagship campuses, this could amount to us much as \$55m. The other two campuses would lose a similar amount.

UCLA and Berkeley, the other flagship campuses, receive only a quarter of their income from California, the remaining two-thirds coming from the Federal Government and from private sources. However, the position will still be perilous if Proposition 9 is passed. To lose a third of total income at a stroke would be enough. But worse is the fact that the basic teaching mission of the university will be harder hit. The state's income tax is the main source of funding for the salaries of faculty members. The other two-thirds is devoted mainly to research. The two lower tiers in

California's system of higher education, the state universities and the community colleges, will suffer much more because they depend much more on Sacramento for their income.

The parallels between the acute crisis which California's higher education faces in Proposition 9 and the chronic crisis which British higher education faces as a result of Mrs Thatcher (and Mr Healey?) are close. Among the issues in California are the possible closure of two of the university's five main campuses, the problem of intellectual regeneration when many academic posts have to be frozen, the inability to attract the best people for the posts that are filled because salaries have been frozen, and the interlocking stranglehold of the newer and more vulnerable parts of the system and the more established but occasionally more conservative parts (whether between Berkeley and UCLA and the other UC campuses or between the state universities and colleges). All these issues are very familiar in Britain.

The events in California since Proposition 13 and in Britain since the election of the Conservatives have thrown up two important criticisms of fiscal conservatism. The first is that those who propose cuts in public expenditure cannot just walk away from the consequences. To do so is irresponsible. The second is that the proposed solutions to the problems created by any retreat from high public spending, such as the disappearance of planning horizons and the inefficiency that flows from this, the loss of individual vitality and the onset of institutional atrophy.

Clegg and the universities

The Association of University Teachers faces a difficult decision about Clegg. Although last autumn they seemed to be no feasible alternative to accepting an interim award and the referees' report, Clegg commission of the remaining claim, the second part of the deal looks daily less attractive.

On one side there are persistent claims that the Government believes that Clegg awards have already added more than £100m to the public sector, and that the commission should be wound up as soon as decently possible before it does more damage. The other side is that the universities' claim would be regarded as unsympathetic in a post-Clegg climate where the commission is in effect being abolished for too generous.

On the other side, if Clegg is not abolished, the university teachers' pay may drag down the referees' report. Each time the date at which a decision is expected to be reached is pushed further into the future, the pressure on the universities to accept a lower award is increased. The universities' claim would be regarded as unsympathetic in a post-Clegg climate where the commission is in effect being abolished for too generous.

There seems to be three complementary reasons for this common preference. On the one hand, industry offers better salaries and facilities. On the other hand, teaching has become over-represented with social engineering. In my opinion, the teaching shortage will only when teaching conditions and salaries to science and mathematics graduates which are competitive with those offered by industry. For the sake of the country the unions really should stop equating, for example, a teacher of needlework and limited prospect in industry, with a mathematician or a scientist or a linguist.

Yours faithfully,
A. H. BISHOP,
School of Mathematics, the University of Bath.

So university teachers may have to face a double disadvantage—their reference may get bogged down by feasibility studies and comparability exercises, or at beginning or even the middle of next year, these exercises may produce, as they did for polytechnic and college lecturers, unflattering results. This second problem, of course, could be solved by cutting the referees' knot and going back to differentials, as happened with the Nafthe claim. But the first problem, of delay, is perhaps more important. By mid-1981, if inflation remains high, the Government may have got round to thinking about the salaries of teachers in higher education. The results of this inquiry could then be fed into the collective bargaining machine in some later pay round. Such a delay would be extremely valuable for Clegg, who is clearly looking on salary differentials in higher education, that is divorced from the immediate pressures of settling the second-order but important issues such as the position of research and part-time staff. Clegg would be better off, and probably happier with, such a task and the members of the AUT would certainly be happier with the expected increases in their banks.

But there are equal dangers in today and the AUT council in the middle of May will have to find a way to escape from this Catch 22 predicament. There are great dangers in abandoning Clegg altogether, even assuming that the other parties to the claim would agree. Although next year's university grant includes an allowance for Clegg increases, it would be wrong to assume that equivalent increases would be paid if they had not been recommended by Clegg.

Left Alliance/Broad Left for the last decade has now forced its 1,200,000 members to accept that the union cannot fight every body's war, responsibility and reality. The long hot summers will give way to committee-room discussions. But before Dr Rhodes' Bayson begins to talk the prospect of the views of the NUS only to be emphasized that politics has not been abandoned entirely by the NUS.

No sooner had Trevor Phillips, the retiring president, urged realism and painful choices: on the one hand, the Mayor of Blackpool, Councillor Robert Dewhurst, was heckled and barracked by left-wing students—all because he was a Tory (Mr Dewhurst had the last word or two when he told the hecklers: "I

acquiring in some long-term study of university teachers' salaries which will produce perhaps too little and certainly too late. The best course for the AUT is to press for a quick and simple reference. This could be based on the application of traditional differentials to the new salary scales for further education teachers recommended by Clegg (which, after all, was devised by the same principle to school teachers' salaries). There is no reason why such a report could not be produced before the summer.

Once the cash had been settled, there would be no harm in allowing the Clegg commission to undertake a wide-ranging inquiry into the salaries of teachers in higher education. The results of this inquiry could then be fed into the collective bargaining machine in some later pay round. Such a delay would be extremely valuable for Clegg, who is clearly looking on salary differentials in higher education, that is divorced from the immediate pressures of settling the second-order but important issues such as the position of research and part-time staff. Clegg would be better off, and probably happier with, such a task and the members of the AUT would certainly be happier with the expected increases in their banks.

Fewer but better campaigns have been promised by the NUS president-elect Mr David Aaronovitch. But there are no signs that the campaign is being fought or indeed, much less, political. And Dr Bayson will have to keep his lips, the NUS still managed to pass a motion which said: Conference believes Dr Bayson hates students.

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Public schools' future still no clearer



Patrick Nuttgens

I thought at first that the BBC was dealing a death blow to the public schools. On the face of it the series of television programmes could be a case of overkill. It all started like a caricature, as Jerusalem was roared out and filled with nostalgia, the nostalgia of not having sung it at school. Surely they could not sing it every programme? They did. The story unfolded with inescapable conventionalities.

Or not quite. What riveted my attention from the start was the vision of the headmaster. He must be a nice man but he looked wonderfully villainous. I expected to see him at some moment starting up from behind a gravestone and crying, "Hold your nose" in a terrible voice. I could see him demanding hoarsely: "You get me a file . . . and you get me wittles . . . or I'll have your head and liver out."

Such a fantasy was totally destroyed as soon as he started speaking. The image of Magwitch ordering a boy to get him wittles, I thought rather hysterically, is not entirely inappropriate for a public school headmaster. If the boy did not bring the wittles, his striking name guardian would turn up and be suitably impressed with the need for them. Whether or not they had a forge in the background, they would order an impeccably and disarmingly deferential (we must behave well or he might turn us down) in a Rolls-Royce, which is better than a cheque card.

Until the number of programmes robbed them of any further interest, public school was fascinating. There was the ferociously dotty teacher at the very start who turned out to be leaving (he must have got wind of the programmes) and in case he changed his mind had a rousing send off. There were so many articles as well as disaffected boys, sometimes getting soaked in rivers and trained for life. There were the girls rashly sent to nearby schools, thus putting them in danger but confirming that there is a lot of unexpected normality about the modern boarding school. And boys' those amazing parents, charming, cool and utterly opaque.

The role of the public schools has changed without destroying their splendour. I have just been reading *Disraeli's Colingridge* for the first time (after an initial aversion when someone told me that it was Michael Foot's favourite novel) and the style as well as the privilege is all there. How smoothly these boys at Eton talk to each other in measured and grammatical sentences, only slightly more balanced and structured when they are at Oxford and Cambridge. What distinguishes them, even more is of course money. "The rich are not like us," said Disraeli. "No," replied Hemingway, "they've got more money."

But the immediately definitive change is in the purpose of a public school education. Until the war it may have been a straight way in to the administration of government or empire or public affairs or the church or the law. Now it is there to give you a way in to the universities, preferably Oxford and Cambridge. As a characteristically clear-headed and realistic public school head pointed out to me a little while ago: "I am paid by parents to get their boys into Oxford or Cambridge. And on the whole I do it. I get good boys to the course they do. They are very good at it. If the ancient universities are the way to the good life then the public schools are a very good investment."

It is not only the academic standards. However poor they may have been in the darker days of Victorian England they are sorted out now. There is something deeply enervating about the schools' independence and the possibility of making imaginative decisions and recruiting good staff (which is the basis of all good schooling). There is also something very important about the other activities which they do so well and which may in the end be crucial to a good education—the sports, the drama, the plays and the choir, the orchestras and the activities which teach you to work things up, to make do with the inadequate, to improvise and invent and above all to work together and to get on with other people.

People who like those things presumably love being at that kind of school. I did. On the other hand other people hate it; I have known them well. I suppose it depends upon how quickly you recover. There is nothing to compare with the dissolution of being sent away from home at the age of seven—it must be the basis of that well-known English determination never to be wounded again.

What I am getting round to saying is that there is no one answer to the future of the public schools just as there is no one view of them. Many people think they should be shut down, others that all schools should try to reach their standards and style. What is clear to me is that you cannot improve things by destroying something that works well. If there is something here of value, perhaps everyone ought to experience it for however short a time. For it is a totally different world from that which most of us experience. This was brought home to me a few years ago when I went to lecture at an open prison at the invitation of the chairman of the prison's literary society, one T. Dan Smith, then in the middle of his sentence. It struck me—and confirmed by the assistant governor—that people who were at public schools got on much better in prison than people who went to the local school. Of course they do. Where else do you get accustomed to personal control and self-control? Where else above all do you never have any privacy?

It does seem ironic that the public schools, that once seemed the very places for the cultivation of a sound general education and the ability to cope with anything, a wide world should now have become the forcing houses for the specialised teaching and narrow academic concerns which will get you into an ancient university.

But the BBC may put it all straight. Rumour has it that another series will be made on the comprehensive school. The critics will be already licking their fingers. Perhaps the BBC will deal a death blow to that.

Radley College, but-warden, "Colleges" Goldsmith shares a joke with parents in the BBC series Public School.